SONY

Intelligent Monitoring Software

User Guide

Software Version 3.0 and above

RealShot Manager

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Manual Overview

This manual contains three individual guides:

- The Getting Started guide will help you to install the Sony RealShot Manager software package.
- The User Guide describes how to use RealShot Manager, it assumes that the software has been installed and configured for the IP cameras in your system.
- The Administrator Guide describes how to configure the cameras in your system and manage the users. Many of the features described within this guide are only available to users with Administrator rights, if you cannot use a feature you require. See your System Administrator.
- The maximum number of frames per second for the image stream from a camera is written as 25 fps based on PAL. In the case of NTSC, it is 30fps.

Typographical Conventions

Before you start using this manual, it is important to understand the terms and typographical conventions used in the documentation.

The details of the various text formats that are used within this document are shown in the table below:

Format	Type of Information
Step 1.	Step-by-step procedures. You must follow these instructions to complete a specific task.
1) Numbered List	A list of points referenced by numbers, often referring to a figure.
• Bulleted List (level 1) ° Bulleted List (level 2)	A list of points or values where the order is unimportant.
Special Bold	Items you must select such as menu options, command buttons or items in a list.
Emphasis	Used to emphasise the importance of a point or for variable expressions such as parameters.
CAPITALS	Names of keys on the keyboard, e.g. SHIFT, CTRL, ALT.
<Generic Description>	Text in angle brackets is a generic description of the item to be substituted: <colour> could be replaced by any actual colour, e.g. black, green, blue.
KEY + KEY	Key combinations for which the user must press and hold down one key and then press another, e.g. CTRL+P, ALT+F4.
Future Developments	Features that are not yet implemented but are planned for a future release.

Getting Started

Introduction

The Sony RealShot Manager management software for video monitoring over a TCP/IP local area Ethernet network (referred to hereafter as IP for Internet Protocol) allows you to manage multiple Sony cameras across an Ethernet network. Examples of devices that can be managed by RealShot Manager are shown in Figure 1 to Figure 6, however this is not an exhaustive list. These devices include cameras, audio monitoring equipment and other boxes such as the SNT-V304 that converts signals from analogue cameras for network use.

Figure 1 SNC-RZ30

Figure 2 SNC-VL10

Figure 3 SNT-V304

Figure 4 SNT-V501

Figure 5 SNC-P1

Figure 6 SNC-DF40

RealShot Manager allows you to:

- Set up new cameras and manage existing cameras
- Record the output of any individual camera manually
- Create and modify schedules for monitoring recording/monitoring the signals from multiple cameras
- Search for and review any previous recording
- Set up sensor inputs and reactions

RealShot Manager Basics

Cameras (e.g. SNC-RZ30), camera control units (e.g. SNT-V304), audio boxes and input/output devices are connected to a Local or Wide Area Network (LAN/WAN); often via a network switch. One or more Network File System (NFS) compatible server(s) can also be connected to the network to act as storage for the video files recorded from the cameras and audio files from the audio boxes. The system is configured and controlled from one or more PCs that run the RealShot Manager client application software. See Figure 7.

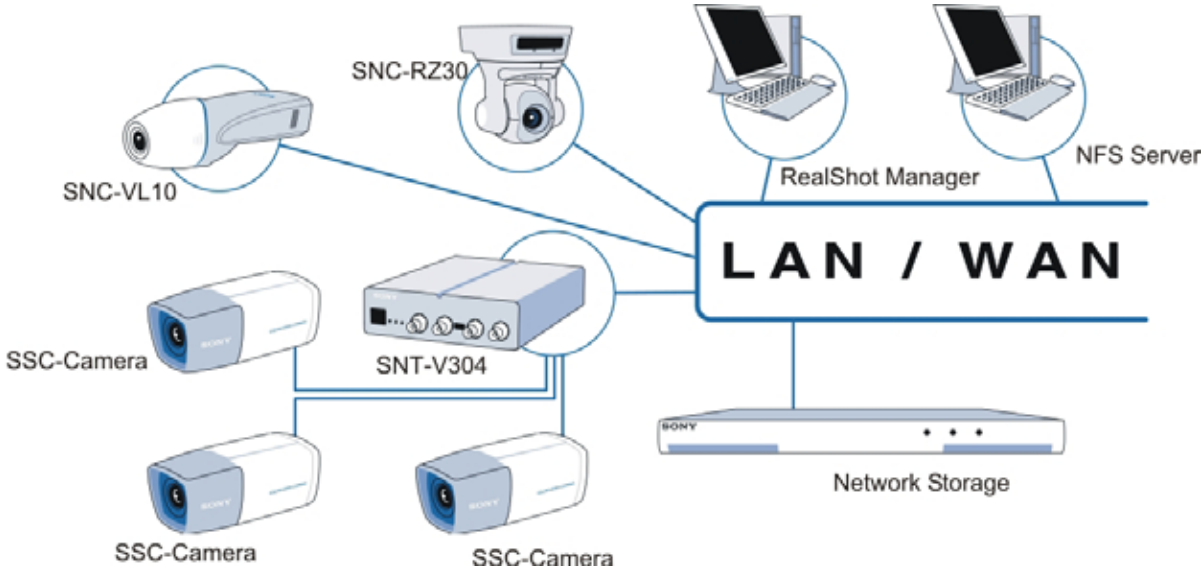


Figure 7 System Example

RealShot Manager Prerequisites

A software license is required to run RealShot Manager. If the application is started without a valid license file in place then only reduced evaluation functionality will be available.

If you are using a previous version of RealShot Manager with a dongle, please contact your Sony dealer to apply for a free software license file.

To ensure access to the network database, you will need up to date ODBC drivers. These will be installed by the setup program (alternatively run MDAC_TYP.exe).

Both of these installations can be carried out after installation of the RealShot Manager application but are required before the RealShot Manager application can be used.

PC Requirements

The following table details the requirements for a PC to run as a RealShot Manager client.

Component	Option
Operating System	Windows® 2000, 2003 Server or XP
Processor	Pentium® 4 - Processor 2.4 GHz or higher is recommended
Memory	512 MB RAM minimum
Video card	Supporting 1024 x 768 at 16/24bit colour depth
Network Interface card	100 Mbit/s

Software Installation

Sony RealShot Manager Client

Double-click on the setup program setup.exe or open the start menu and click on Run.... Enter <CDROM Drive Letter>:\setup.exe as shown in Figure 8 and select OK.

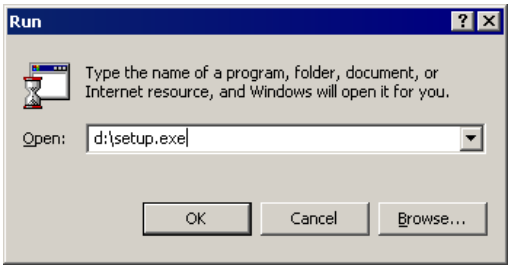


Figure 8 Manual Execution of Setup Program

Follow the instructions below; please note that you will require local administrator rights:

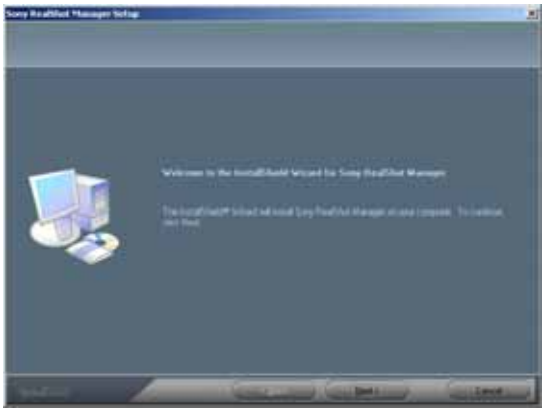


Figure 9 Setup Confirmation

Step 1:

Shut down any other windows programs that may be running.

Select OK in the Welcome window.

Select Setup to begin the installation process.

Select Next >.

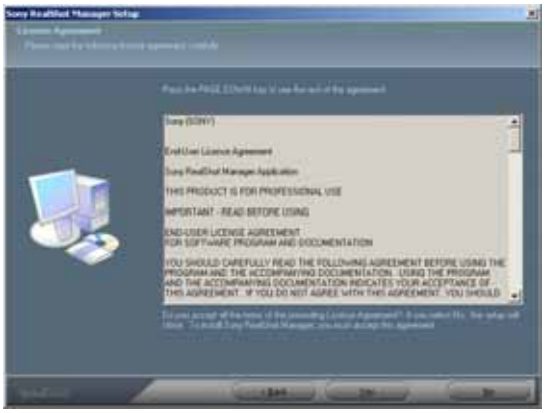


Figure 10 License Agreement

Step 2:

Read the End User License agreement and select Yes if you agree to be bound by the terms.

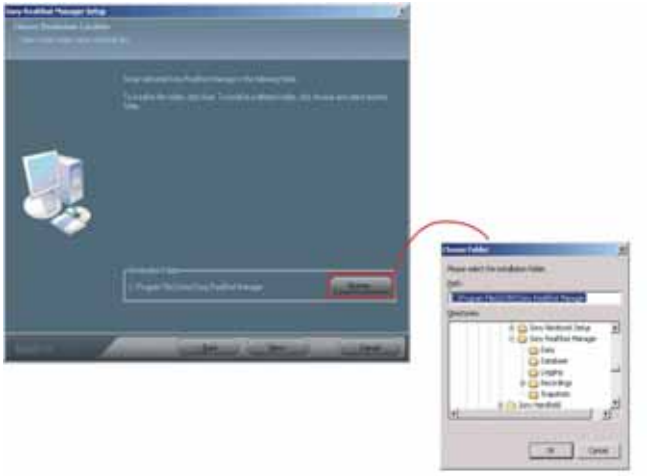


Figure 11 Installation Path

Step 3:

Select Browse and navigate to a folder in which to install the software; the default location is typically:

C:\Program Files\Sony\Sony RealShot Manager

Note that the drive letter will depend on the installation of the Operating System and that the default path can be modified during installation, an example of a modified path is shown in Figure 11.

If the directory does not exist, select OK to confirm creation of the directory.

Step 4:

Select OK to save the path.

Select Next > to move to the next Setup screen.

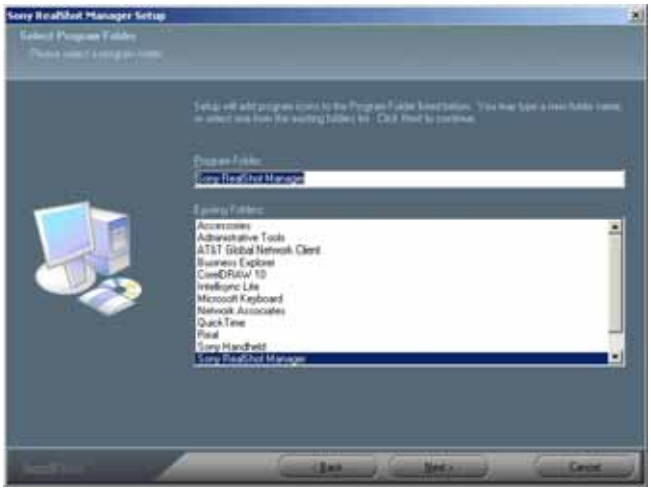


Figure 12 Set Folder

Step 5:

Enter the name of the Program Folder where the shortcut icon to RealShot Manager should be installed. The default is: Sony RealShot Manager.

Select Next >.

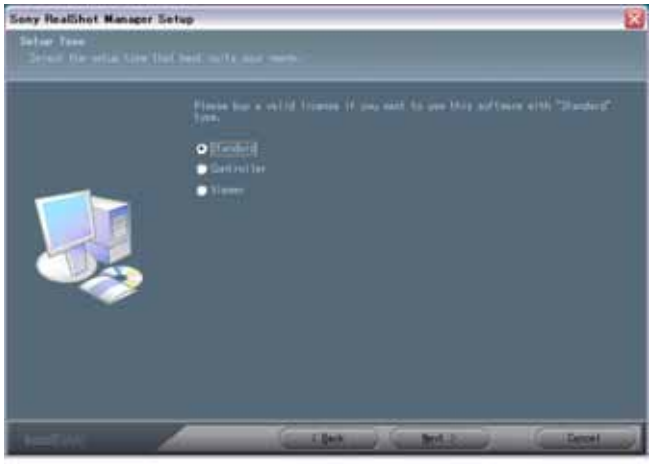


Figure 13 Select Installation Type

Step 6:

Select the type of RealShot Manager you wish to install from the following:

- Standard (the default)
- Controller
- Viewer

Select Next >.

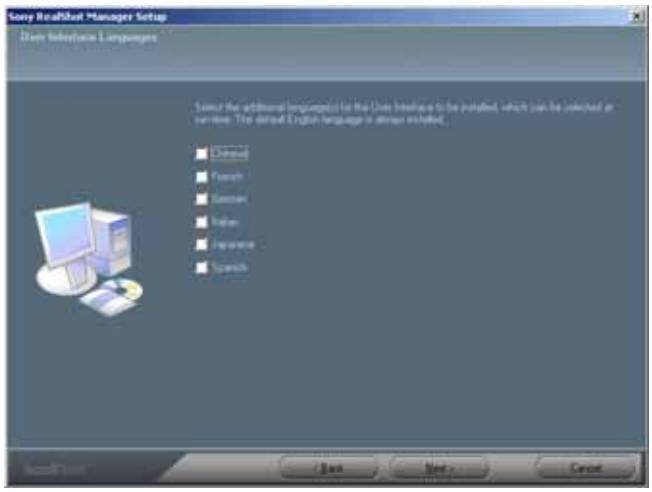


Figure 14 Set UI Language

Step 7:

The English version of the RealShot Manager user interface is installed by default, Select any additional language(s) you require.

Select Next >.

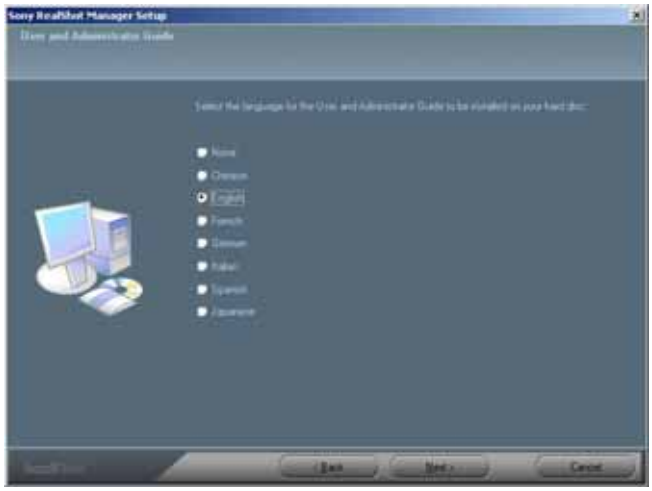


Figure 15 Set Guide Language

Step 8:

Select the language you require for the PDF of the User and Administration guide.

Select Next >.

Warning
Error copying English User and Administrator Guide.
Note: In compact or upgrade installation files, no User and Administrator Guide is included. Please download it separately.
OK

Figure 16 Guide Copy Error

Note:

If you are upgrading from a recent version of RealShot Manager or using the compact install file, then you will see this warning message. The PDF file for the User and Administrator guide will not be updated on this occasion. You will need to obtain the user guide separately from Sony.

Select OK to close the dialog and continue with the setup procedure.

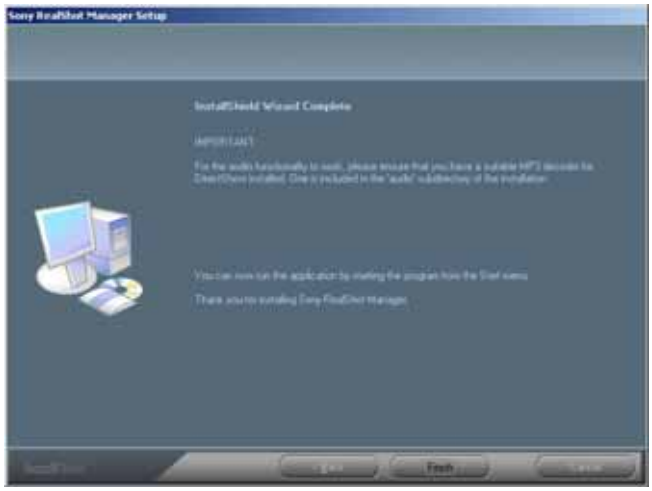


Figure 17 End RealShot Manager Installation

Step 9:

Select Finish to complete the installation of RealShot Manager.

Note: You will need to obtain a software license file before using RealShot Manager.

Sony RealShot Manager Server

Installation of the Windows or Linux server-only RealShot Manager application is covered in ‘Installing RealShot Manager Server’ on page 84.

Starting RealShot Manager

When the application is run for the first time, see User Guide section ‘Launching the Application’, there will be no initial configuration, the following steps are needed to get a basic working configuration:

1) Register Cameras.

This is achieved using the Setup Manager; see the section entitled ’Setup Manager’ in the RealShot Manager Administrator Guide. The following compatible Sony video network cameras (both PAL and NTSC models) are supported:

- SNC-RZ30 Video Network Pan-Tilt-Zoom Camera. See Figure 1.
- SNC-VL10 Video Network Camera. See Figure 2.
- SNT-V304 Video Network station. See Figure 4.
- SNT-V501 Video Network station. See Figure 4.
- SNT-V504 Video Network station
- SNC-Z20 Video Network Zoom Camera.
- SNC-CS3 Video Network Camera.
- SNC-P1 Video Network Camera (for Motion JPEG or MPEG-4). See Figure 5.
- SNC-DF40 Video Network Camera (for Motion JPEG or MPEG-4). See Figure 6.

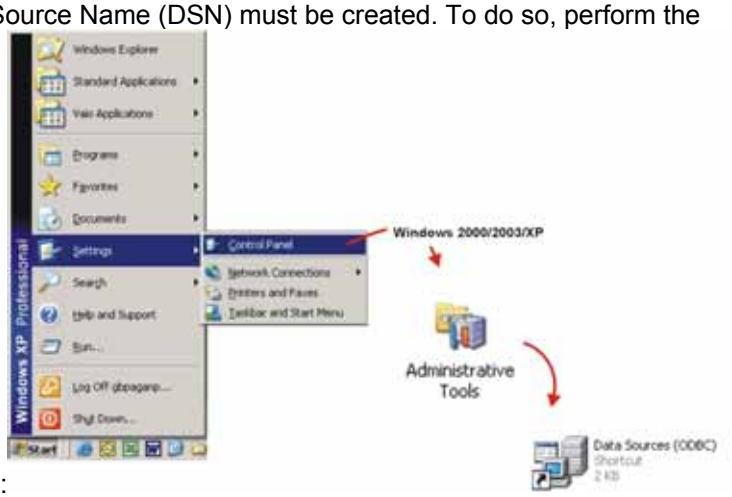
Administrators: refer to the individual camera user guides for details on how to assign IP addresses.

1) Create a Screen Layout; see the section entitled ‘Layout Editor’ in the RealShot Manager ‘Administrator Guide’.
2) Assign Cameras to Monitor Windows. See section ‘Changing Cameras in the Monitoring Layout’ in the RealShot Manager ‘User Guide’.
3) Create user accounts. See ‘Manage User Accounts’ in the RealShot Manager ‘Administrator Guide’ for details of how to create and manage user login details.

Troubleshooting the Client Installation

‘ODBC not set up during Initial Software Configuration’

Before using the Sony RealShot Manager software a Microsoft Access Data Source Name (DSN) must be created. To do so, perform the following:



Step 1:

Open the ODBC Data Sources control panel applet.

Open the Control Panel and select Administrative Tools/Data Sources (ODBC).

Figure 18 ODBC Data Source

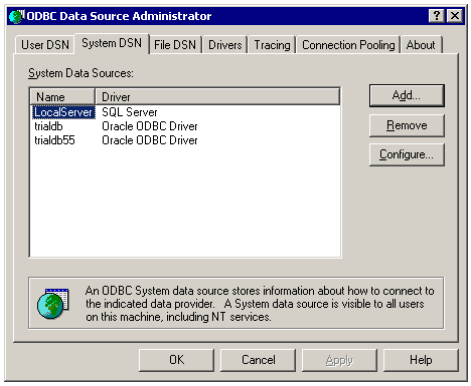


Figure 19 Data Source Name

Step 2:

In the ODBC DSN Dialog Box select the System DSN tab and click on Add....

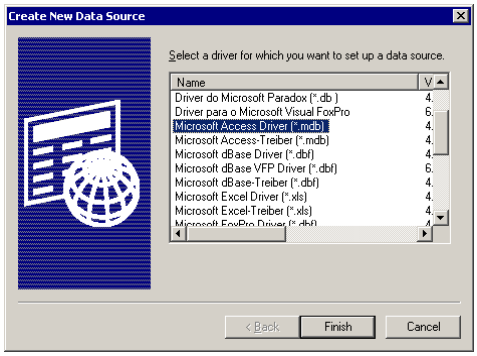

Create New Data Source
Select a driver for which you want to set up a data source.
Name
Driver do Microsoft Paradox (*.db)
Driver para o Microsoft Visual FoxPro
Microsoft Access Driver (*.mdb)
Microsoft Access-Treiber (*.mdb)
Microsoft dBase Driver (*.dbf)
Microsoft dBase VFP Driver (*.dbf)
Microsoft dBase-Treiber (*.dbf)
Microsoft Excel Driver (*.xls)
Microsoft Excel-Treiber (*.xls)
< Back
Finish
Cancel

Figure 20 Access Drivers

Step 3:

Select Microsoft Access Driver (*.mdb) from the list of data source drivers and click on Finish.

Figure 21 Link to the DB

Step 4:

The Data Source configuration dialog will open.

1) Enter the Data Source Name; this *must* be Sony RealShot Manager.

2) Click on Select to locate the database file. If the RealShot Manager software is installed in the default location this will be:

C:\Program Files\Sony\Sony RealShot Manager\Database

3) Select the 'RealShot Manager.mdb' file and click on OK. Click on OK again to save changes to the new DSN you have created.

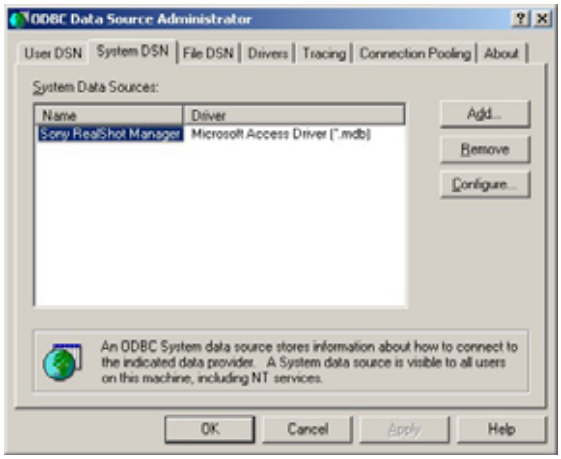


Figure 22 ODBC Configured

Step 5:

The newly created DSN is listed in the System Data Sources List Box. If you need to make any changes to this data source, select it and click on Configure... to make changes. Refer to the Microsoft Access manual for details.

Click on OK to complete the set up of the ODBC DSN.

Error opening ODBC Database
This program uses ODBC to access a database.
To install the database please follow these steps :
1. Be sure the latest Microsoft Access ODBC drivers are installed. The latest version of these drivers can be downloaded from http://microsoft.com/downloads
Search on Category 'Data Access Components'
The file is mdac_typ.exe, about 5 Mb in size.
2. In the Control panel, ODBC Data Sources section add a user or System DSN named 'Sony RealShot Manager'. The Database for this DSN should point to the supplied 'RealShot Manager.mdb' Access database file in the .\Database sub-directory
3. Run this program again and this dialog should not appear any more...
OK

Figure 23 ODBC Error

If the ODBC DSN is not created or is given the wrong name then when the RealShot Manager application is started an error message is displayed.

Select OK and perform the procedure described in this section again.

License Error

If RealShot Manager is started without a valid software license, the message shown in Figure 24 will be displayed.

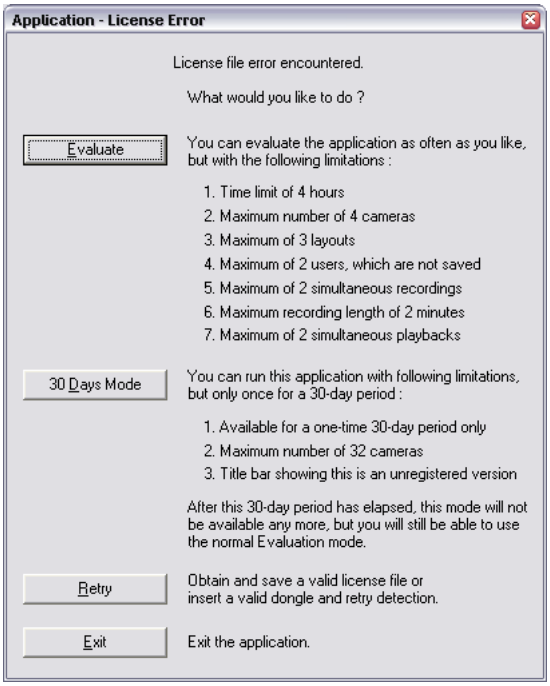

Application - License Error
License file error encountered.
What would you like to do ?
Evaluate
You can evaluate the application as often as you like, but with the following limitations :
1. Time limit of 4 hours
2. Maximum number of 4 cameras
3. Maximum of 3 layouts
4. Maximum of 2 users, which are not saved
5. Maximum of 2 simultaneous recordings
6. Maximum recording length of 2 minutes
7. Maximum of 2 simultaneous playbacks
30 Days Mode
You can run this application with following limitations, but only once for a 30-day period :
1. Available for a one-time 30-day period only
2. Maximum number of 32 cameras
3. Title bar showing this is an unregistered version
After this 30-day period has elapsed, this mode will not be available any more, but you will still be able to use the normal Evaluation mode.
Retry
Obtain and save a valid license file or insert a valid dongle and retry detection.
Exit
Exit the application.

Figure 24 License Error

- To resolve this, obtain a license file from Sony and place it in the same directory as the RealShot Manager executable. Select Retry to continue when you have installed the license file.
- If you do not have a license then you can run an evaluation version of the program by selecting either Evaluate or 30 Days Mode (either option subject to restrictions as shown in Figure 24).
- Select Exit to leave the application.

Sony RealShot Manager
Your license expired on 30 April 2004.
Please obtain an updated license.
The application will now exit.
Thank you for using Sony RealShot Manager.
OK

Figure 25 Out of date License

If the license file installed on this machine has expired then you will see a message like this. Select OK to continue and obtain a new license file. To run the RealShot Manager application in evaluation mode, delete the old license file from the machine.

Sony RealShot Manager
Your license is not valid for this version 3.0.0.0.
Please obtain an updated license.
The application will now exit.
Thank you for using Sony RealShot Manager.
OK

Figure 26 Invalid License

If the license file on this machine is not valid for the current version of software, then you will see a message like this. Select OK to continue and obtain a new license file. To run the RealShot Manager application in evaluation mode, delete the invalid license file from the machine.

Figure 27 Checking the License

To check that the license has been properly installed, select About from the Help menu check that the Serial Number field contains a number similar to the one shown in Figure 27.

End User License Agreement

SONY Corporation End-User License Agreement

Sony RealShot Manager Application

THIS PRODUCT IS FOR PROFESSIONAL USE

IMPORTANT - READ BEFORE USING

END-USER LICENSE AGREEMENT

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Should you have any questions concerning this Agreement please see the User Guide for contact details.

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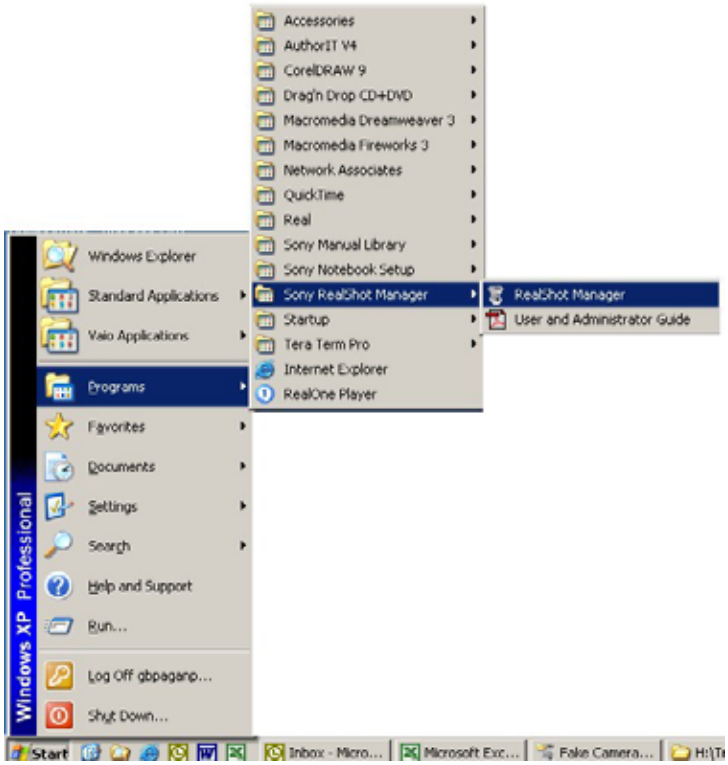
User Guide

Launching the Application

To start the RealShot Manager application, you can either:

1) Use the windows Start menu or
2) Double click on the desktop shortcut.



From the windows Start menu, select:

1) Programs
2) Sony RealShot Manager
3) RealShot Manager

Figure 28 Use of the Start Menu

If a shortcut like the one shown in Figure 29 exists on your desktop, you can double click on it to launch the RealShot Manager application.

Figure 29 Desktop Shortcut

Creating a Desktop Shortcut

If you do not have a desktop shortcut for RealShot Manager, follow the procedure below to create one:

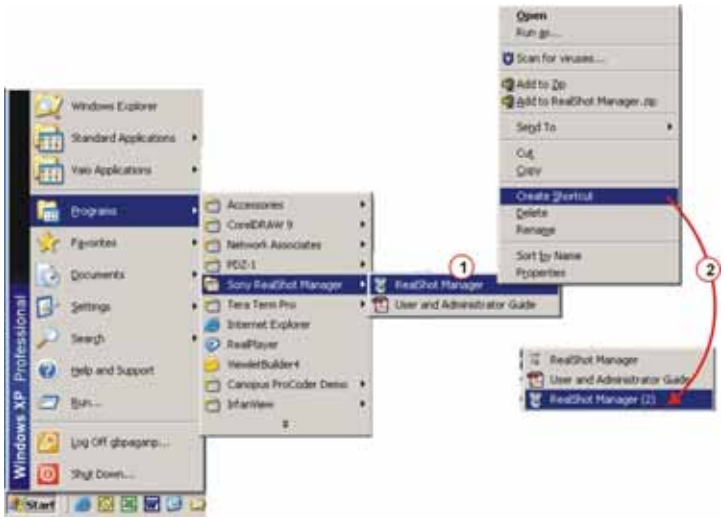


Figure 30 RealShot Manager Menu Items

Step 1:

Open the Start menu for RealShot Manager as if to launch the application but right-click on the 'RealShot Manager' menu entry to open the pop-up menu.

Step 2:

Select 'Create Shortcut' to add a shortcut to the Start menu. By default this shortcut is named 'RealShot Manager (2)'.

Step 3:

Select the shortcut 'RealShot Manager (2)' with the left mouse button and drag to the desktop.

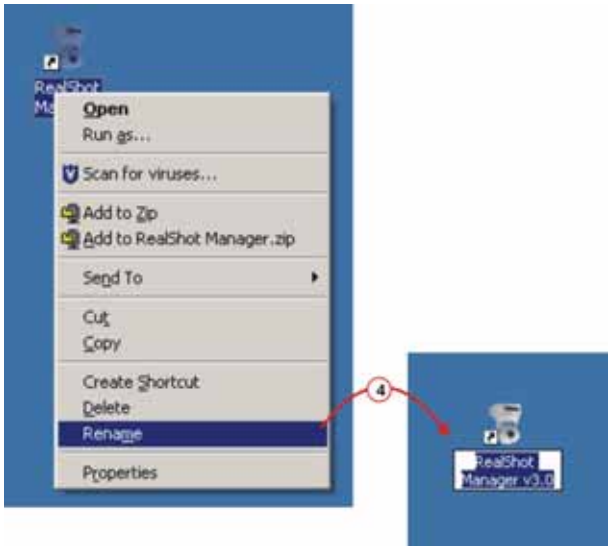


Figure 31 Renaming the Shortcut

Step 4:

You can add the version number to the end of the name as shown in the example in Figure 31.Right-click on the new desktop icon and select Rename. Delete the '(2)' and add the version number to the end of the name.

Select Return to save your changes to the name.

Dealing with Licensing Issues

As the RealShot Manager application starts, it will look for the presence of a license file. If the RealShot Manager application does not detect a license file required to run the software, the message shown in Figure 24 will appear.

Contacting Sony

If you have any questions regarding licensing of RealShot Manager, please contact your local Sony dealer.

Navigating the User Interface

The RealShot Manager user interface is an example of a Graphical User Interface (GUI), where practicable the individual windows support standard Microsoft Windows behaviour.

Resizing and Minimizing/Maximizing Windows

The windows opened during use of RealShot Manager can be arranged as follows:

Figure 32 Resizing a Window

To resize a window:

1) Place the cursor over an edge or corner of the window until the drag-arrow appears.
2) Drag the window to the new required size.

You can also vary the width of columns within a window:

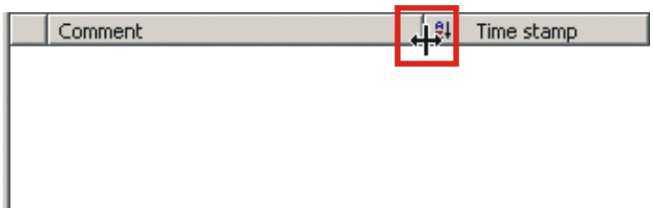


Figure 33 Resizing a Column

1) Place the cursor over the join between two columns until the drag-arrow appears.
2) Drag the column boundary until the column is the required new width.

To auto-size a column to its contents, left double-click on the join to the right of the column heading.

Figure 34 Resizing a Pane

Within a window made up of multiple panes, you can adjust the area occupied by each pane:

1) Place the cursor over the edge of the pane you wish to resize.
2) Drag out to the required width.

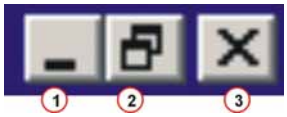


Figure 35 Window Management - 1

Each of the application windows has the standard windows controls for manipulation of windows:

1) Minimize
2) Restore Down
3) Close

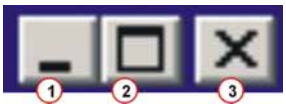


Figure 36 Window Management - 2

However, in the secondary windows, the minimize function is disabled. Only the whole application can be put into the background to be accessed via a button on the Windows Start Bar.

If you restore down a window, you can return it to its original size by selecting maximize.

1) Minimize
2) Maximize
3) Close

Selecting a Colour

The colour palette allows you to select a colour from the basic range or to define your own custom colours. See Figure 37:

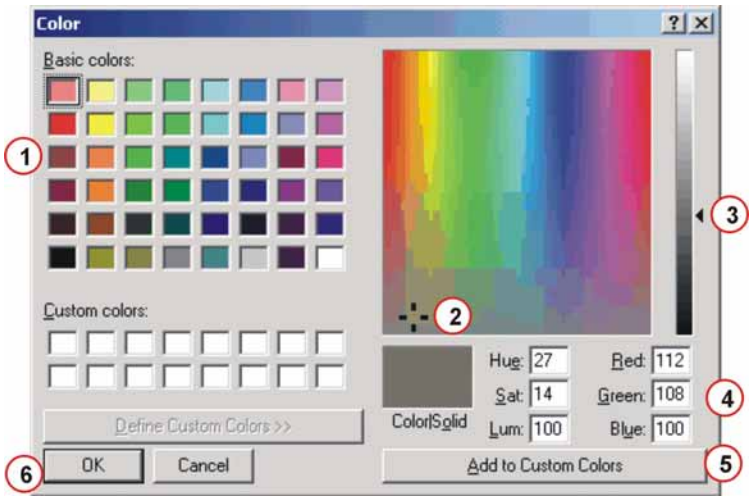


Figure 37 The Colour Palette

1) You can select any colour from the 'Basic Colours:' by clicking on the colour required and then OK.
2) If you wish to define a custom colour, drag the colour selector until the colour you require is visible in the 'Colour/Solid' box.
3) You can refine the shade of the selected colour by dragging the arrow up and/or down to make the shade lighter or darker.
4) An alternative is to type in the RGB values for the colour directly into the boxes provided.
5) Select Add to Custom Colours to register the new colour.

6) Select OK to exit the 'Colour' dialog and save your changes. Select Cancel to exit without saving.

The Main Application Window

When the RealShot Manager application is first launched, the default layout is displayed, as shown by Figure 38:

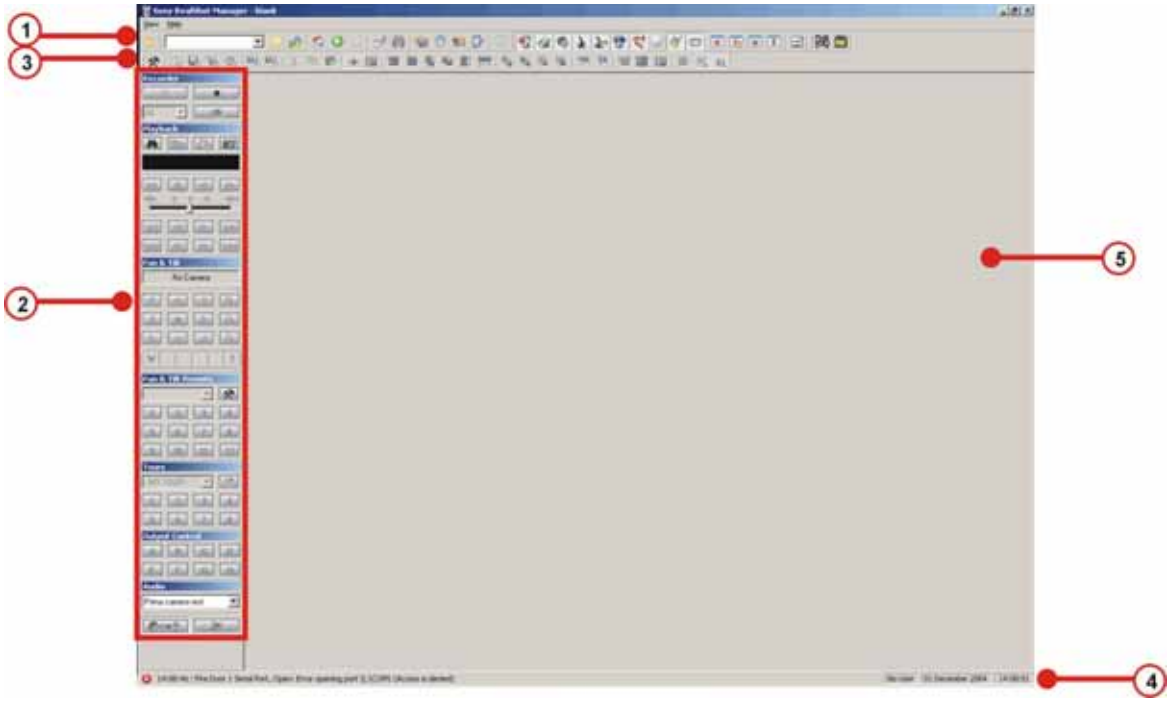


Figure 38 The Default Main Application Window

1) The Main Toolbar. Some of the functions of this toolbar are protected by access rights and may therefore not be available. The View and Help menus. These are clearly visible and ready for use. If this is not the case then press Shift+F11.

Note: Shift+F11 only works when NOT in Full Screen Mode. If in Full Screen Mode, first leave this mode (Shift+Enter) and then press Shift+F11. If you do not have rights to leave Full Screen mode then Shift+Enter will have no effect. In this case login as a different user (Ctrl+L).

---

2) The Toolbars for individual areas of functionality.
3) The Layout Editor Toolbar. This provides tools for creating monitor layouts.
4) The Status Bar. This gives a summary of the current activities of the application and recent errors.
5) The Central area of the window. This is empty.

Note: You can also use the Full Screen button on the main toolbar to toggle between the normal view and full-screen. However, with default permissions you can only go from window to full-screen, not back again. To return from full screen requires additional privileges, see your System Administrator to ask for help or login as a different user with the appropriate privileges (Ctrl+L).

To be able to use many of the features of RealShot Manager, you will have to ask your System Administrator to create one or more user accounts.

Logging in to RealShot Manager

The first time the RealShot Manager application is launched, no user accounts exist and by default all functions are available. However, as soon as the first user account has been created you will need to log in before you can use all your assigned functions. If you do not log in you will still have access to the default functions of the software. See 'Setting Permissions' on page 105.

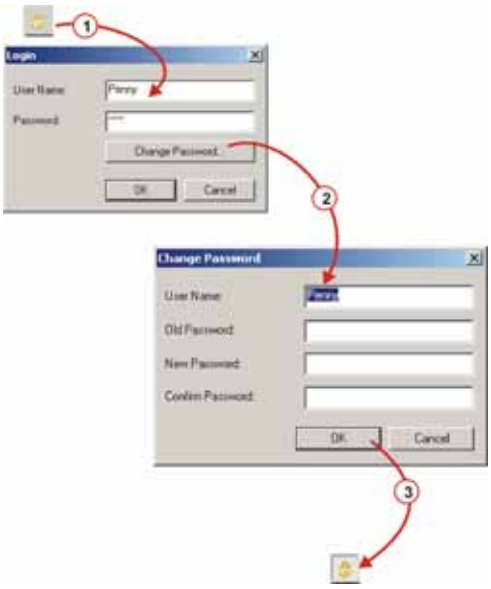


Figure 39 Logging In

1) Click on the 'Login' icon on the main toolbar or select Ctrl + L. Enter your user name and password and select OK to log in. If you do not have these details then see your system administrator to obtain a new account.
2) To change your password select Change Password..., this will open the change password dialog. Enter your user name and old password, then your new password and confirm the new password.

   You may be prompted to enter a password when you first log in if the System Administrator has made passwords mandatory. See the section 'User Accounts' on page 105 of the Administrator's Guide.
3) When you are logged in the 'Login' icon will be displayed as an open lock . Note: If you select the open padlock or Ctrl+L whilist logged in, you will be logged out.

Using the Menus

The View Menu

The View menu controls the display of the windows and toolbars associated with the functions of the RealShot Manager application. See Figure 40.

To toggle between normal and full-screen mode, select Shift + Enter. To show/hide the menu bar, select Shift + F11.

The Show Toolbar Title when Docked option has a toggle action and determines whether toolbars are displayed with or without their title bars when docked. See ‘Docking’ on page 26.

The display of the individual toolbars and the Status Bar is controlled via a toggle action. Select the toolbar name to mark it with a ‘✓’ and make it visible; select the same toolbar again to remove it from the main window.

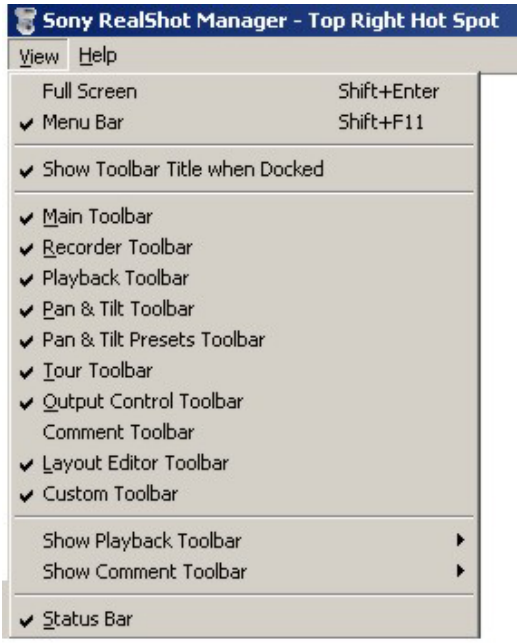


Figure 40 The View Menu

The visibility of each of the toolbars can also be controlled from the Main toolbar of the RealShot Manager application. See ’The Main Toolbar’ on page 26.

The Playback and Comment toolbars each have two display options; Small and Long. These options allow you to choose between two layouts for the toolbar.

Select Show Playback Toolbar/Small to display the Playback toolbar in the ‘small’ format. Select Show Playback Toolbar/Long to display the Playback toolbar in the ‘long’ format.

The Long option makes the toolbar full width within the window and so minimises its vertical height.

The Small option arranges the controls within the minimum square area; this can be useful if many toolbars are required to be visible at the same time.

The Comment toolbar format can be selected in the same way.

The Help Menu

The Help menu provides version information for the RealShot Manager application.

Select Help/About RealShot Manager... to display version and configuration information as shown in Figure 27 on page 15.

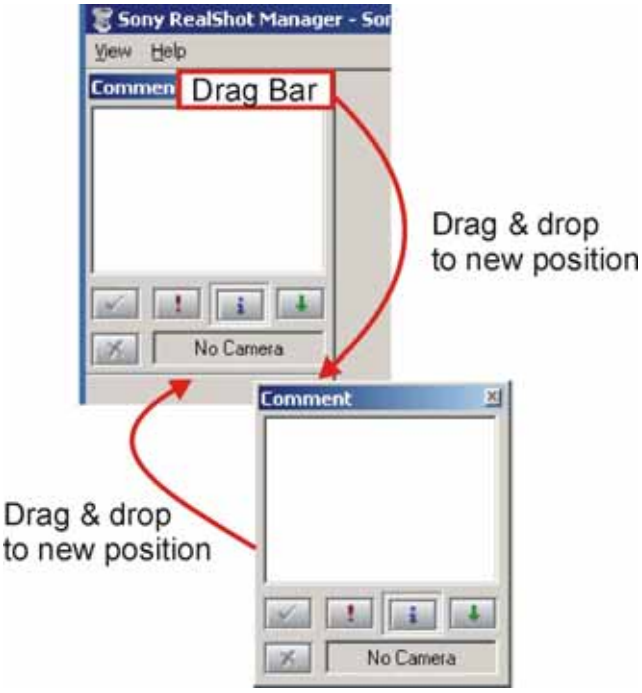
Select OK to close the ‘About Sony RealShot Manager’ dialog.

Using the Toolbars

Much of the functionality available through RealShot Manager is available through specific toolbars that can be arranged on the screen as you wish.

Docking

Toolbars can be dragged and positioned anywhere within the main application window. The View menu option Show Toolbar Title when Docked controls whether the blue title bar is visible when the toolbar is docked. In the example shown in Figure 41, this option is set to off (not marked with a '✓').



This is the Comment toolbar docked to the left-hand side of the main window.

To move the toolbar, drag it away from the edge of the window using the left mouse button over the drag bar. Hold down the mouse button and drag the window to its new position.

To dock the toolbar drag it against the left hand or right hand edge of the main application window in the position that you would like it docked.

If you drag the toolbar away from the edge of the main window, it will become a separate window in its own right and can be placed anywhere.

Figure 41 The Comment Toolbar

The Main Toolbar

The Main toolbar provides access to the major functions of the RealShot Manager application. See Figure 42.

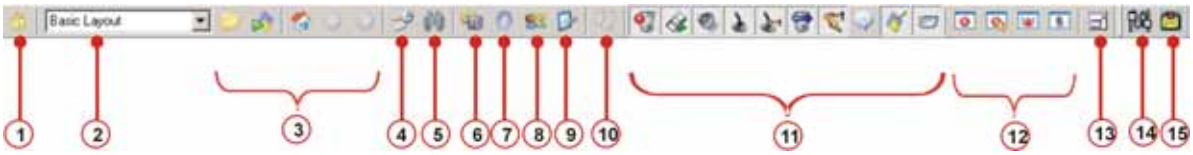


Figure 42 The Main Toolbar

1) Login – See 'Logging in to RealShot Manager' on page 24.
2) Select Layout – Allows the selection and subsequent display of previously created monitor layouts. The selected layout controls the appearance of the monitor window. See 'Creating a New Layout' on page 162. The drop-down list will be empty if no monitor layouts have previously been created.
3) Layout tools - These allow you to control the arrangement of monitors for viewing camera images. See 'Selecting a Monitoring Layout' on page 35. The five icons are:

- Open Layout
- Toggle Auto Layout Change
- Load Default Layout
- Load Previous Layout
- Load Next Layout

4) Schedule Editor - Allows you to setup and modify daily and weekly schedules of events for each camera. These events can include monitoring, recording and purging of previously recorded files. See ‘The Schedule Editor’ on page 49.
5) Search Recordings - Provides a browse facility to locate recordings for viewing. See ‘Searching for Recordings’ on page 64.
6) Setup Manager - Allows a user with administrator rights to add and modify cameras, I/O Boxes, Audio Devices, Device Groups and Remote Servers. See ‘Setup Manager’ on page 111.
7) Action Editor – Allows you to configure the actions to be triggered if a sensor input is activated, e.g. if a door sensor detects that a door has been opened. See The Action Editor on page 153.
8) User Manager - Allows a user with administrator rights to add and modify user accounts and permissions. See ‘’ on page 102 for further details.
9) General Settings - Allows a user with administrator rights to modify application-wide settings such as directories for recorded files, log file settings and the default monitoring setup. See ‘General Settings’ on page 91.

Camera Properties – This icon is disabled until a camera is selected in the monitoring window. See ‘

10) Setting Camera Properties' on page 121.

11) Toggle <Toolbar> Controls. These enable the display or hiding of function-specific toolbars. You can also show/hide the toolbars using the View menu options.

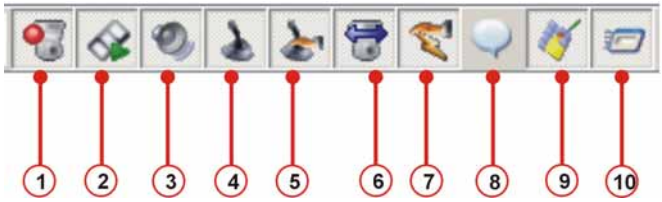


Figure 43 The Toolbar Controls

1) Toggle Recorder Toolbar
2) Toggle Playback Toolbar
3) Toggle Audio Toolbar
4) Toggle Pan & Tilt Toolbar
5) Toggle Preset Toolbar
6) Toggle Tours Toolbar
7) Toggle Output Control Toolbar
8) Toggle Comment Toolbar
9) Toggle Layout Editor Toolbar
10) Toggle Custom Toolbar

Depress the button to display the related toolbar.

12) Logging Controls – To view and setup logs, use the Logging Window, Logging Control, Alarm Window and User Log Window icons. See 'Logging' on page 185. Modifying some of the logging settings requires administrator rights.

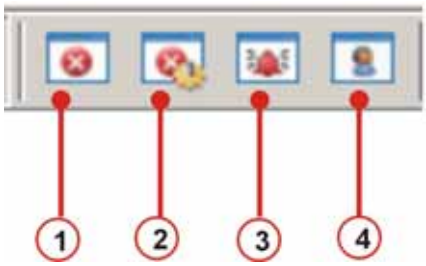


Figure 44 Logging Controls

These windows present information to the user on the status and progress of events in RealShot Manager, see 'Troubleshooting' on page 185.

1) Logging Window
2) Logging Control
3) Alarm Window
4) User Window

13) Full Screen – This icon toggles between normal mode and full-screen mode. In full-screen mode the main application window is expanded to fill the screen; the Title Bar, Menu Bar and Status bar are removed to make as much space as possible for the monitor windows and the toolbars.

Note: The icons labelled 14) and 15 in Figure 42 are not part of the Main toolbar but part of the Custom Toolbar (see below). The two toolbars may be docked so that they appear as one.

The Custom Toolbar

A Custom Toolbar may be placed adjacent to the Main Toolbar (see Figure 42) containing icons to activate further applications. This Custom toolbar may also be separate from the Main toolbar and appear anywhere within the Main Window.The links shown as 15) and 16) are included as part of the RealShot Manager application but others may be added, see 'External Application Integration' on page 102 of the Admistrator's Guide:

1) EZPlugger - Exports the RealShot Manager device configuration to EZPlugger, a separate software application built around a group of Wizards designed to assist you in the configuration, firmware update and validation of Sony Digital Surveillance products prior to and during the installation process. Sony's IP Monitoring Cameras connect directly to the network while the Video Network Station (or gateway) allows use of existing analogue cameras in an IP network environment. EZPlugger provides a step by step approach to building device configurations, downloading firmware updates and setting device parameters.

   Note: EZPlugger is a separate application to RealShot Manager and requires a separate installation and registration procedure.

2) Email Notification – Enables the sending of e-mails to notify specified users when an alarm is triggered. For details of how to configure alarms for e-mail notification, see 'Alarm Notification Integration' on page 104.

The Schedule Editor Toolbar

Selecting the Schedule Editor button from the main toolbar opens the schedule editor. The toolbar for the schedule editor provides you with the following functions:

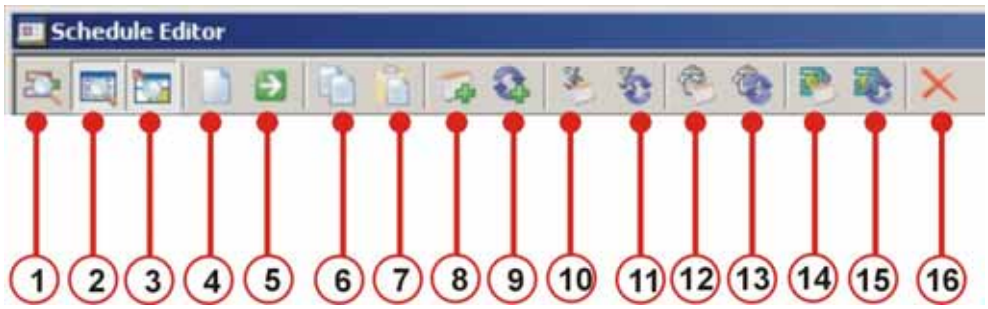


Figure 45 The Schedule Editor Toolbar

1) View as List – switches the window from the weekly calendar to the activities list.
2) View as Week – switches the window from the activities list to the weekly calendar.
3) Toggle Form – Displays/Hides the activities form.
4) New Schedule – Clears the schedule of recordings for the currently selected camera or group.
5) Apply Schedule – Saves changes to the recording schedule for the current camera or group.
6) Copy Schedule – Copies an entire schedule for a camera or camera group into a schedule paste buffer. In the case of copying from a group the resultant schedule is the combination of all events for all cameras in the group.
7) Paste Schedule – Pastes the contents of the schedule paste buffer. The pasted schedule can be applied to a single camera or a camera group. Select the destination camera or group prior to pasting the schedule.
8) Insert Date/Time Item – Allows you to schedule a single activity, i.e. is only enabled in the List View.
9) Insert Recurrent Item – Allows you to schedule a recurrent activity. This button is active in both the Week View and the List View.
10) Insert Date/Time Motion Detection Job Item – Allows you to schedule an event to monitor for movement as configured for the selected camera in the Setup Manager.
11) Insert Recurrent Motion Detection Job Item – Allows you to schedule a recurrent event to monitor for movement as configured for the selected camera in the Setup Manager.
12) Insert Date/Time Cleanup Job Item – Allows you to purge recordings from a particular camera or group at a particular time and date.
13) Insert Recurrent Cleanup Job Item – Allows you to schedule a job to purge recordings from a particular camera or group regularly.

The following items are only visible and therefore available if a license for the separate retail module has been loaded:

14) New Retail Item – Adds a date/time event to activate the retail module if configured. (Configuration of the retail module requires a license file with the retail module enabled and the retail module checkbox in the ‘General Settings’ to be checked.)
15) Add Recurrent Retail Item - Adds a regular event to activate the retail module if configured.

16) Remove Item – Removes the activity currently selected from the schedule.

The use of these functions is described in ‘Scheduling Recordings’ on page 49.

The Recorder Toolbar

The Recorder Toolbar, see Figure 46, allows you to start and stop manual recordings and to take snapshots. For further details, see ‘Recording’ on page 48.

Figure 46 The Recorder Toolbar

The Playback Toolbar

The Playback Toolbar provides functions to control the playback of previously recorded files. See ‘Searching for Recordings’ on page 64.

Once the toolbar is open, see Figure 47, you can use the ‘Toggle Toolbar Size’ button to move between the short and long versions of the controls. Choose the format that fits your current screen layout.

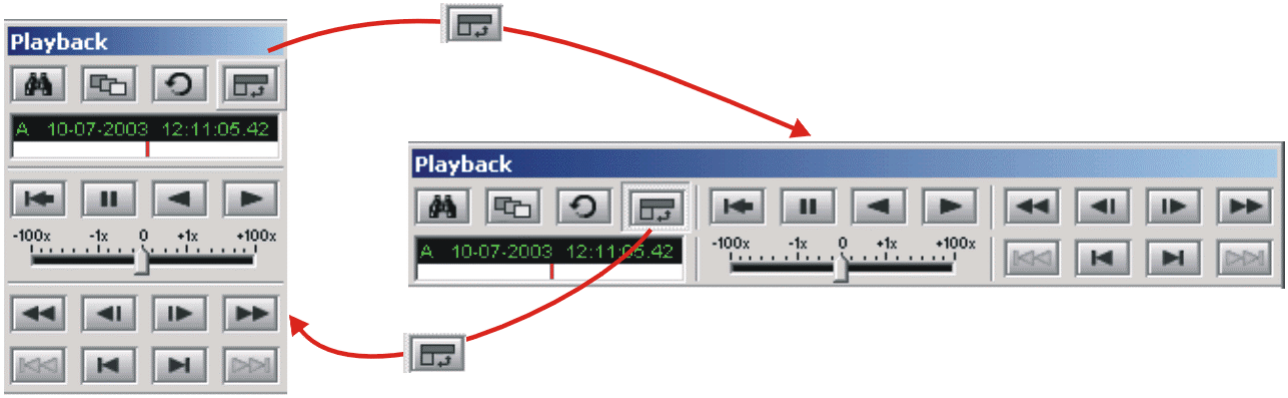


Figure 47 The Playback Toolbar Versions

The Audio Toolbar

The audio toolbar allows you to select the source of audio that is monitored and turn the audio monitoring on and off (audio muting). See ‘Monitoring Audio’ on page 79.

Figure 48 The Audio Toolbar

The Pan & Tilt Toolbar

The Pan &Tilt toolbar allows you to control the camera angle and zoom level of a camera you are currently monitoring. See Figure 49. For details of how to setup camera control see ‘Controlling Cameras’ on page 43.You must have been assigned the appropriate rights to manipulate the chosen camera. If you do not, then these controls will remain disabled. If the camera does not support pan, tilt and zoom functions then these buttons will also remain disabled.

Figure 49 The Pan & Tilt Toolbar

The Pan & Tilt Presets Toolbar

The ‘Preset’ toolbar, see Figure 50, allows you to use and set camera presets. Each preset is a predefined position view that can be given a name. See ‘Controlling Cameras’ on page 43.

Figure 50 The Presets Toolbar

The Tours Toolbar

A ‘Tour’ is made up of a list of presets, with a duration to hold the image for each preset in the list and a duration to move from one position to the next after holding. See ‘Building a Tour‘ on page 46. Tours are only available for cameras with Pan, Tilt and/or Zoom functions, see ‘Camera Settings dependent on Camera Model’ in the Administrator Guide for details of the capabilities of each supported model of camera.

You can build a tour from existing presets or specify new ones from the ‘Tours’ builder.

Figure 51 The Tours Toolbar

The Comment Toolbar

The ‘Comment’ toolbar, see Figure 52, allows you to enter comments for a particular camera whilst monitoring the camera output.

These comments can be later read using the Search facility. See ‘Searching for Recordings’ on page 64.

Figure 52 The Comment Toolbar (short and long versions)

The Output Control Toolbar

The ‘Output Control’ toolbar allows you change the states of configured outputs for a camera selected in the monitor view. For further details, see ‘Output control’ on page 47

Figure 53 The Output Control Toolbar

The Layout Editor Toolbar

The ‘Layout Editor’ toolbar allows a RealShot Manager administrator to design monitor layouts and assign cameras and actions to each monitor window. See ‘Housekeeping’ on page 160.

Understanding the Status Bar

The Status bar is found at the bottom of the RealShot Manager main application window and gives information about the current status of the application.

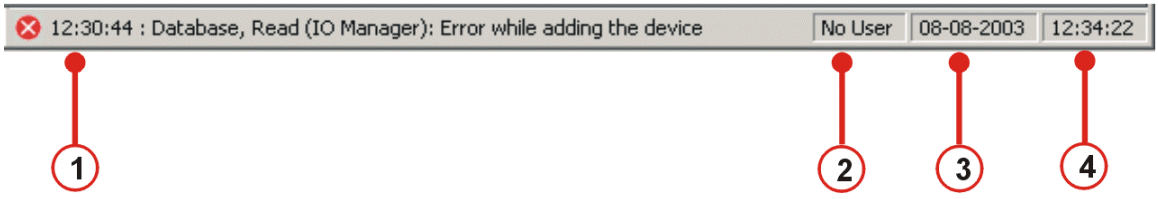


Figure 54 The Status Bar

1) General application status, defaults to ‘Ready’ when the application is not busy. If there is a problem with the application then a warning message will appear in this area. Errors will be accompanied by an icon - . See the example shown in Figure 54.
2) User currently logged in, defaults to ‘No User’ if not logged in.
3) Current Date
4) Current Time

Monitoring

Monitor Window Objects

When creating a Monitor Window layout a number of different objects can be added to layout.

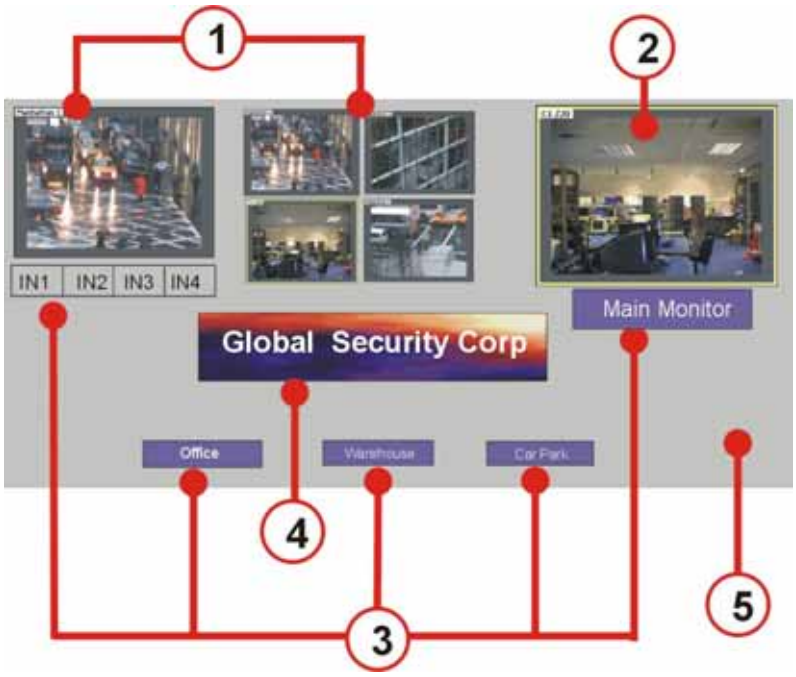


Figure 55 Monitor Window Objects

1) Camera Monitor Windows – Used to display images from cameras, playback previously recorded video clips and capture snapshots.
2) Hotspot Camera Monitor Window – Used to display a duplicate image from one of the other camera monitor windows. The hotspot monitor window would generally be larger than the other camera monitor windows and is used to see any image in more detail. Click on any camera monitor window (1) and the picture is also displayed in the hotspot monitor. In a dual screen configuration, the hot-spot monitor can be configured to be a full-screen image on the second monitor, see ‘General Settings’ on page 91 in the Administrator’s guide for details.
3) Image Object – JPEG, BMP and EYE (wavelet) image files may be displayed on the layout. These objects are created using a graphic editing application and then loaded into the layout. Image objects may be made active by assigning an action to them.

The following actions can be configured for an image object:

- Switch the camera displayed in a monitor.
- Switch to a different layout.
- Send a command using external control.

When an action is assigned to an image object, clicking on that object will execute the action.

4) Background Image – JPEG, BMP and EYE image files may be displayed on the background of the Monitor Window. These images can be tiled, centred or stretched to fill the whole window.

5) Background Colour – the colour of the background can be configured (the default colour is grey).

Creating a Monitoring Layout

When RealShot Manager is first started after installation, no monitor layouts are defined. A RealShot Manager administrator can create a monitor layout for your installation using the Layout Editor. See 'Creating a New Layout' on page 162.

Layouts show camera images and graphics arranged in a defined way. For example, if you are monitoring offices across Europe, you may find it convenient to arrange small monitors or graphics of each camera over a map of Europe and have one large 'hot-spot' monitor for viewing the image from a selected camera.

Selecting a Monitoring Layout

To select between previously designed monitor layouts, you can use any of the following methods:

Figure 56 Select Layout

1) Use the drop-down list from the main toolbar and select the layout from the list.

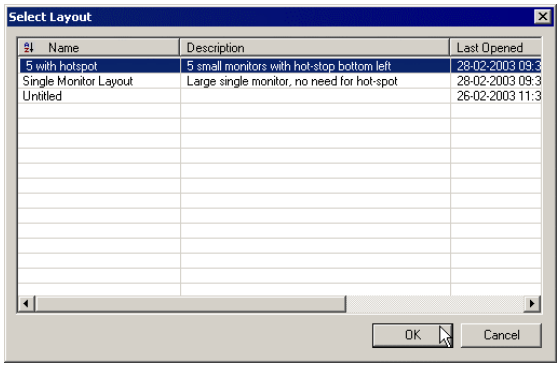


Figure 57 Layout List

2) Select from the main toolbar and choose the layout from the list. Select OK to go to the selected layout.

Note: A RealShot Manager administrator can create a default layout; see '

Enabling the Layout Editor Toolbar' on page 162. To return to the default layout select from the main toolbar.

3) Select the 'Toggle Auto Layout Change' icon to enable or disable automatic cycling through a predefined list of prepared layouts.

Note: A RealShot Manager administrator can create a list of layouts to be displayed in order, see 'Layout Settings' on page 102 of the Administrator's Guide.

Selecting Display Items

To modify the information about the connection that is visible in a monitor window, select a camera monitor window.

- Select the View from the right-click pop-up menu.
- From the sub-menu, enable the information that you would like to be visible in the monitor window. Each of these menu items has a toggle action, items marked with a '✓' are visible. The mapping between the menu items and the displayed information is shown in Figure 58. However, you would not normally see all of the example information at the same time. For example, the status 'NO CONNECTION' and the bandwidth 64kbps are mutually exclusive because the bandwidth will only be displayed for a valid connection.
- The motion detection are markings are only visible when one of the motion detection configurations has been activated during a scheduled motion detection event.
- If NO CAMERA is displayed in the Monitor Window, use either the Select Camera… or Select Multiple Cameras… option to allocate one or more cameras for monitoring.

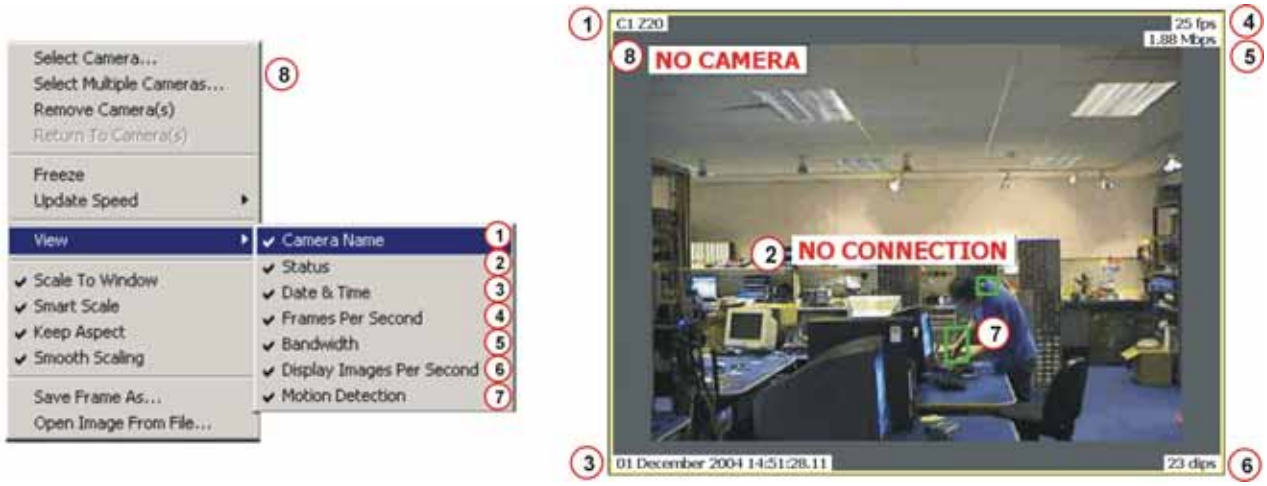


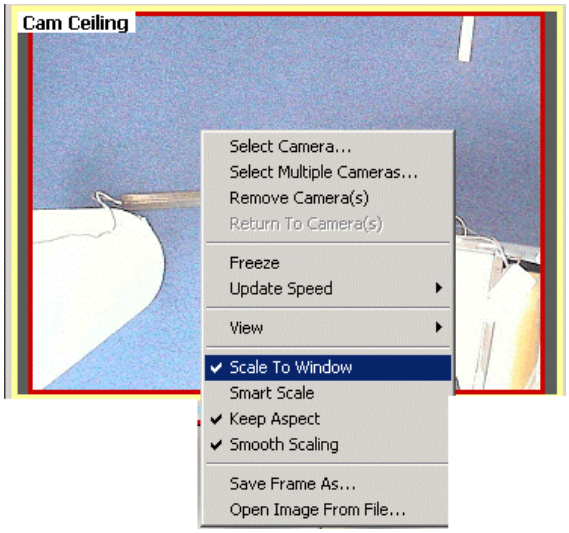
Figure 58 Selecting Display Items

Note:

The frames per second (fps) value shown labelled as '4' in Figure 58 is not a fixed, continuous value but an average value taken over a time interval.

Scaling the Monitored Image

To change the scaling of the image in a monitor window, right-click on a monitor and select one of the scaling options from the pop-up menu.



The scaling options are as follows:

- Scale To Window
- Smart Scale
- Keep Aspect
- Smooth Scaling

The effect of each of these options is described in section 'Monitor Window Object Scaling' on page 178 of the Administrator Guide.

Figure 59 Scaling Camera Images

Freezing the Monitored Image

You can freeze the image in a monitor window to take a longer look at one frame:

Figure 60 Freezing a Camera Image

To freeze the image in a monitor window as a still, right click on a monitor and select Freeze from the pop-up menu. A '✓' will appear against the Freeze menu item.

This menu item has a toggle action, to return to normal monitoring select Freeze again to clear the '✓'.

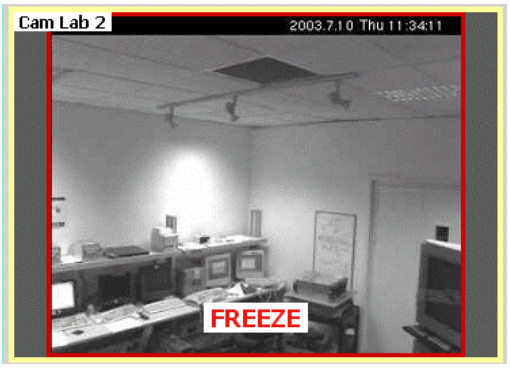


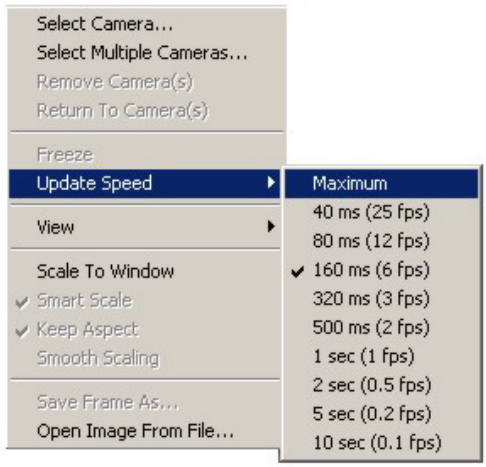
Figure 61 Camera image with 'Freeze'

Whilst the freeze is active, the image in the monitor is frozen (still) and 'Freeze' is displayed in the monitor.

Note: This does not save the still image to disk. If you wish to take a snapshot of a camera image. See 'Saving the Monitored Image' on page 38.

Updating the Frame Rate

To vary the displayed frame rate of the image in a monitor window, right click on a monitor and select Update Speed from the pop-up menu.



Select the new speed required from the list.

The actual display frame rate from a camera will depend on:

- The processing speed of the RealShot Manager PC
- How many other cameras are being monitored
- The frame rate set at the camera

See also 'Monitor Window Update Speed' on page 184 of the Administrator Guide as this affects the perceived frame rate for the user.

Figure 62 Changing the Frame Rate

Saving the Monitored Image

You can save the current image from the monitor window to a file as a single-frame snapshot. Right-click in the monitor window and select **Save Frame As...** from the pop-up menu, see Figure 63.

The captured image may appear upside-down or rotated to the left or right even if you have set the camera mounting angle correctly in the camera properties. This is due to the fact that the camera rotation is not taking into account when snapshots are captured.

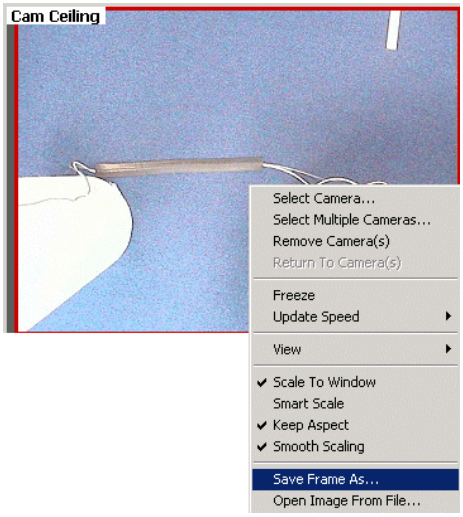


Figure 63 Saving a Single Frame

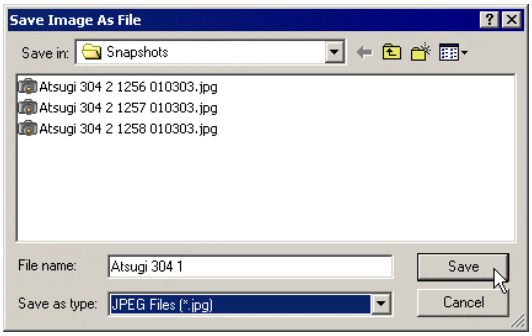


Figure 64 Creating a Snapshot File

Use the browse window to navigate to the directory where you wish to save the image and enter a file name in the 'File name:' box.

Select the format in which to save the image from the 'Save as type:' drop-down menu.

The list of types available depends on the type of the camera.

Select Save to create and save the image file.

Note: All camera snapshots can be saved in their original (native) format as long as RSM does not have to perform any action on the file. There is one exeception to this rule: For a camera capable of generating MPEG4 video, only the images passed as I frames within the MPEG4 stream can be saved frame-accurately. The MPEG4 format, like the .eye (VL-10) format, can be read by RSM but not interpolated.

All camera snapshots can be saved in BMP or re-encoded as JPG format if RSM has to perform an action on the original image. Actions can be: Rotation; Dynamic Masking or Composing an image from an I and (one or more) P-frames for a MPEG4 camera.

Loading a saved image

To load a saved image from a file to one of the monitor windows, right-click in the monitor window and select Open Image From File..., see Figure 65.

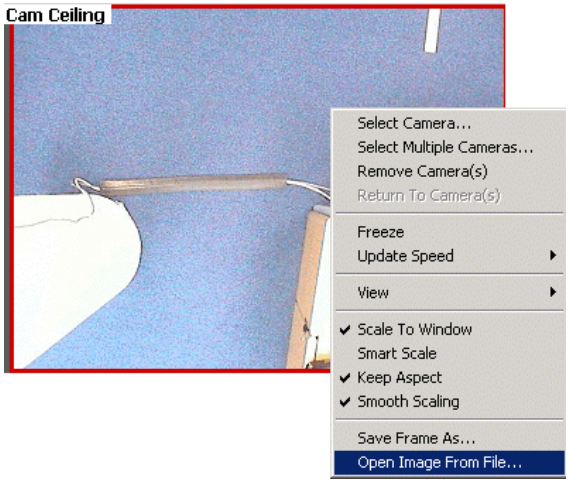


Figure 65 Loading a Snapshot File

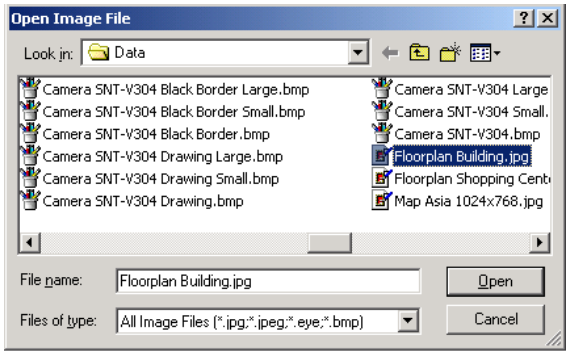


Figure 66 Loading a Saved Image

Browse to find the file you wish to load, select it from the list and select Open[1].

The image is loaded into the target monitor window in place of any existing image.

[1] All camera snapshots can be saved in their original (native) format as long as RealShot Manager does not have to perform any further actions on the file.

There is one exeception to this rule: For a MPEG4 capable camer, images can only be saved in MPEG4 format if the user wants to accurately save the I frame in an image stream. The MPEG4 format is only 'readable' by RSM, like the .eye (VL-10) format.

All camera snapshots can be saved in .BMP or re-encoded as .JPG format where RSM has to perform some further action on the original image.

Actions can be:

1. Rotation

2. Dynamic Masking

3. Composing an image from a group of one I and (several) P-frames for a MPEG4 camera.

Changing Cameras in the Monitoring Layout

Selecting a Single Camera

To select a camera for viewing in a monitor window, right-click on a monitor and select the option Select Camera..., see Figure 67.

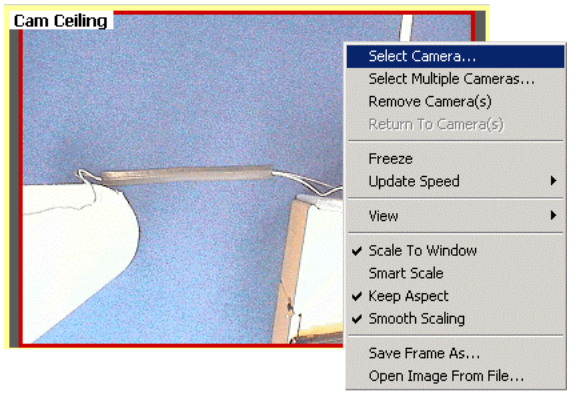
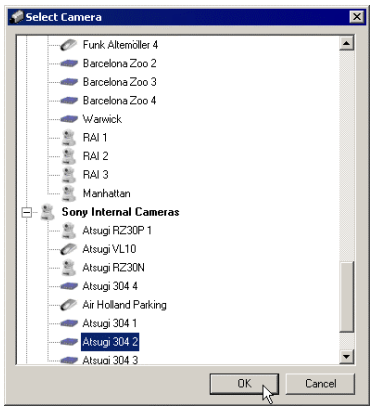


Figure 67 Select Single Camera



Select the camera you wish to monitor and select OK to update the contents of the monitor window.

Note: If the message **NO CONNECTION** appears in the monitor window then the RealShot Manager application is unable to set up communication with the selected camera. Check the status of the camera with your System Administrator.

Administrators see also ‘Assigning a Single Camera to a Camera Monitor’ on page 176.

Figure 68 Selecting Camera to Monitor

Selecting Multiple Cameras

You can use a single monitor to cycle through the outputs from several cameras. Right click on a monitor and select the option Select Multiple Cameras..., see Figure 69.

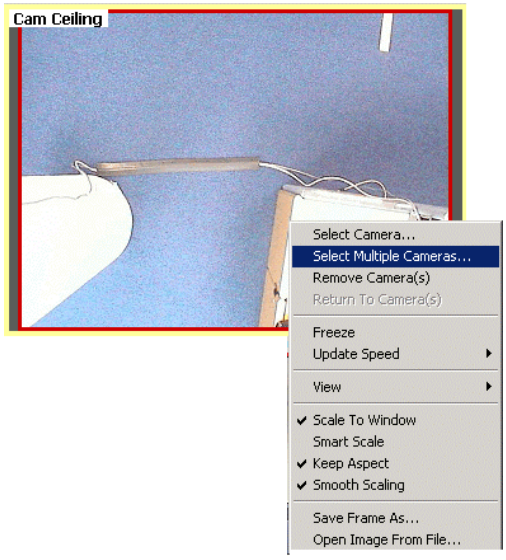


Figure 69 Selecting Multiple Cameras to Monitor

Figure 70 Multiple Camera Selector

Build a list of cameras to share the monitor. See Figure 70:

1) Select a camera or cameras. You can select a block of cameras by using SHIFT+LEFT MOUSE CLICK and a discontinuous group of cameras by using CTRL + LEFT MOUSE CLICK.
2) Add the selected camera(s) to the monitor list by clicking on the button marked .

Repeat steps 1) and 2) to build a list of the cameras to be monitored.

You can now sort the active list so that the monitor cycles through the cameras in a specified order.

1) Select a camera and use the button to move it to its desired position in the list.
2) Select a camera and use the button to move it to its desired position in the list. Repeat steps 3) and 4) as necessary for all other listed cameras.
3) The image from each of the cameras selected will be displayed in turn in the monitor. To allocate a duration to the display of each camera, select each camera from the right-hand list in turn and enter the required duration in milliseconds in the box marked ‘Display Duration’.
4) To remove a camera from the list, select the unwanted camera from the active list and click on the button.
5) To save your changes select OK. The monitor window will scan through the listed cameras displaying the output of each one for the specified duration.
6) To exit without saving your changes, select Cancel.

Administrators: see also ‘Assigning Multiple Cameras to a Camera Monitor’ on page 176.

Assigning a Tour

You can use a single monitor to cycle through a tour of preset positions for a single camera.

Figure 71 Selecting a Tour

Select the monitor window and use the 'Toggle Tours Toolbar' icon to open the 'Tours' toolbar, see 'The Tours Toolbar' on page 32.

If any tours are specified for the camera assigned to the selected monitor window then one or more of the numeric buttons will be highlighted. Select one of the highlighted buttons or a named tour from the drop-down list to view the images defined by the tour in the selected monitor window.

You can also open the 'Tours' toolbar and then select the camera directly from the combo box. This enables you to build tours for cameras not currently selected in a monitor.

For details of how to set up a tour, see 'Building a Tour' on page 46.

Controlling Cameras

Select the camera to be controlled in the monitoring window.

Using Pan/Tilt and Zoom (PTZ)

For a camera that is capable of PTZ functionality (e.g. the SNC-RZ30), you can use the 'Pan& Tilt' toolbar (see Figure 72) to control the camera image or you can use the mouse to go to a point in the image or zoom to a defined area.

Control with the Pan & Tilt Toolbar

To open/close the Pan & Tilt toolbar, click , on the main toolbar or select Pan & Tilt Toolbar from the 'View' menu.

Summary of Controls:

- The controls labelled 5 and 9 are for zooming the camera image in and out. See Figure 72.
- Button 13 provides digital zoom and partial pan & tilt functionality for cameras that do not have pan & tilt units and during playback of pre-recorded files.

Controls 2, 4, 10 & 12 allow a combination of the pan & tilt movements so allowing you to move the camera's field of view diagonally.

The remaining buttons allow you to pan the camera i.e. move it in the horizontal plane and tilt the camera i.e. move it in the vertical plane.

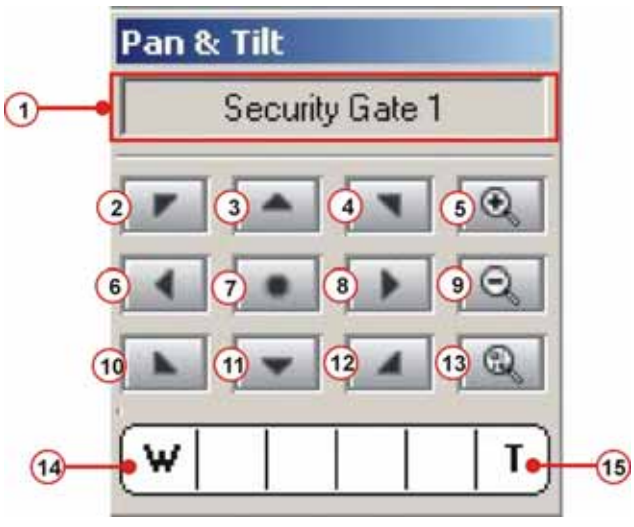


Figure 72 The 'Pan & Tilt' Toolbar

1) The camera to be controlled is identified by name in this box. You can also click in this box to select a different camera from the resulting 'Select Camera' window.
2) Pan left and tilt up
3) Tilt up
4) Pan right & tilt up
5) Zoom in
6) Pan left
7) Pan & tilt centre
8) Pan right
9) Zoom out
10) Pan left & tilt down
11) Tilt down
12) Pan right & tilt down
13) Toggle digital zoom
14) Wide Angle zoom
15) Telephoto zoom

PTZ Using the Mouse

You can perform PTZ operations using the mouse on the image in a monitor window. This operation matches the facilities provided by the Web browser utility available with the SNC-RZ30 camera.

1) PTZ to centre point

Select Ctrl + left-mouse click on a single point. The camera will reposition itself to centre the image on the point that you have selected, see Figure 73.

Figure 73 PTZ to Centre Point

2) PTZ to a defined area

Select Ctrl + left-click with the mouse and drag the red box out to the area you wish to view, see Figure 74. When you release the mouse, the camera will reposition itself to show the image within the red box at the full size of the window.

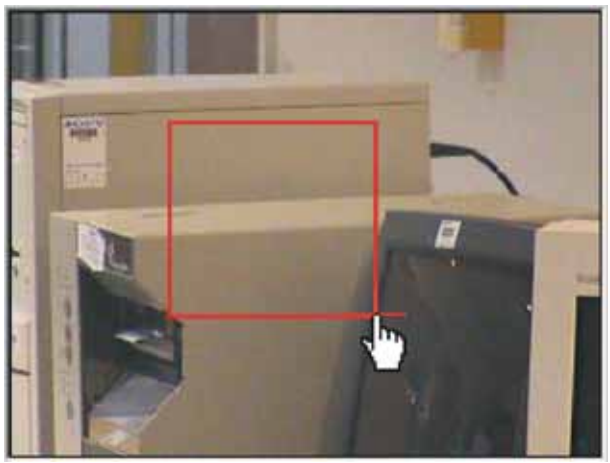


Figure 74 PTZ to Area

3) Zooming in and Out

You can use CTRL+ Mouse Wheel to zoom in and out if you have a mouse with a scroll wheel.

Using a Joystick

If a Joystick such as the Microsoft Sidewinder has been configured as a control device, you can also use this to control the camera PTZ settings. The exact configuration will depend on the model of joystick used. See 'General Settings' on page 91 of the Administrator's guide.

Using Camera Presets

Open/close the Pan & Tilt Presets toolbar, click on the main toolbar. If a monitor window is selected with an assigned camera then this camera is selected from the drop-down box. You can also select the camera directly from the 'Pan & Tilt Presets' combo box.

Alternatively, select Preset Toolbar from the 'View' menu. You can control the camera to move to any previously defined preset:

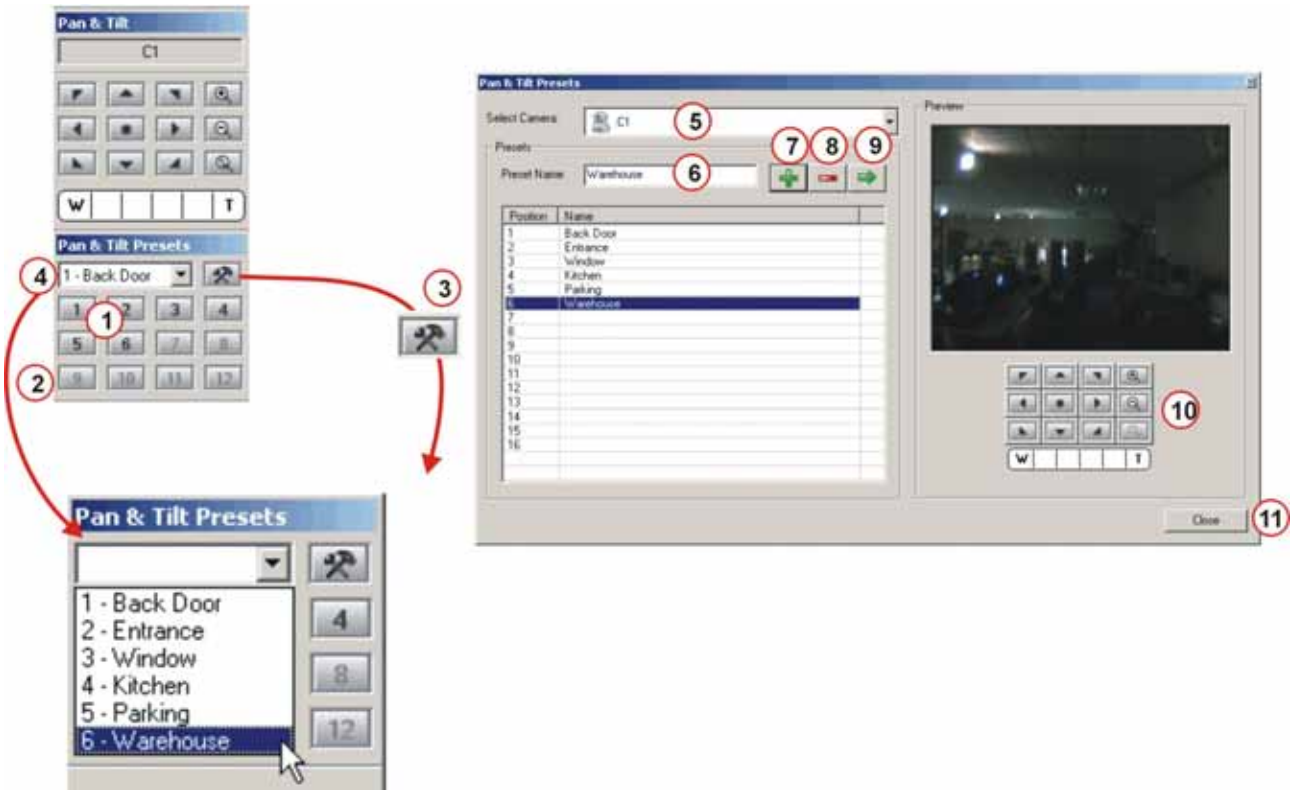


Figure 75 Selecting a Preset

Using Camera Presets

1) If you know the number of the preset you want to use, you can move the camera directly to the saved position by clicking on the preset number, see Figure 75.
2) Only presets against which a camera position has been saved will be active, i.e. not greyed out. If you need help identifying the preset you require, hover over the button and a tool-tip will appear with the name of the preset.
3) You can open the presets list, select the 'Customise Presets…' icon .
4) Alternatively, pull down the name list to display the available presets by name. Select an entry from the list to move the camera to that position.

Select a camera from the drop-down list. To check a preset, use the arrow key to move the camera to the selected preset - (9).

Creating a Preset

To create a new preset:

1) Select the 'Customise Presets…' icon to open the 'Pan & Tilt Presets' window as shown in Figure 75.
2) Move the camera to focus on the required view using the 'Pan& Tilt' controls (10).
3) Select a preset position from the numbered list. If the name field is empty enter the name required for the new preset - (6).
4) To save the current camera position to the preset select '+'.

Modifying an existing Preset

1) Move the camera to the selected preset position and select the arrow key (9), see Figure 75.
2) To modify the view, move the camera or zoom in/out using the 'Pan& Tilt' controls.
3) To update the name associated with the preset, edit the Name field.
4) To delete the position settings associated with the preset, select '-'.

When you have finished creating or modifying the preset, select Close to remove this window and save your changes. Note that you can select the camera image to save as a preset using the mouse control facilities described in the section 'PTZ Using the Mouse' on page 44.

If you are controlling the SNC-Z20 it is only possible to modify existing presets, you cannot add new presets or delete presets. See the SNC-Z20 User Guide for details of how to access the camera presets for addition and/or deletion through the Camera Administrator application.

Building a Tour

You can use the presets previously specified as in 'PTZ Using the Mouse' on page 44 to build a 'Tour'. The camera will move in turn to each of the preset PTZ positions in the tour and will hold that position for the duration given.

1) Open the 'Tours' window by ensuring that the 'Tours' toolbar is visible and selecting the 'Customise Tours…' icon.
2) Select a camera from the drop-down list.
3) If starting a new tour, select '+' and enter a tour name. To remove a tour, select the tour from the list and select '-'.
4) Move the camera to the required position either by using the controls, the mouse or the drop-down list of presets.
5) Preview the selected tour by selecting the right arrow.
6) Select '+' in the Positions area and enter a name for the position. Set the duration to stay on this image and the duration to take in moving to the next image.
7) To move the camera to the next or last position, use the right and left arrows.
8) To change the order of the presets in the list select one and then use the up and down arrows.
9) To remove a position select '-'. To remove a tour select '-' from the 'Tour Settings' area.
10) Select OK to save your changes to the tours.
11) Select Cancel to exit without saving your changes.

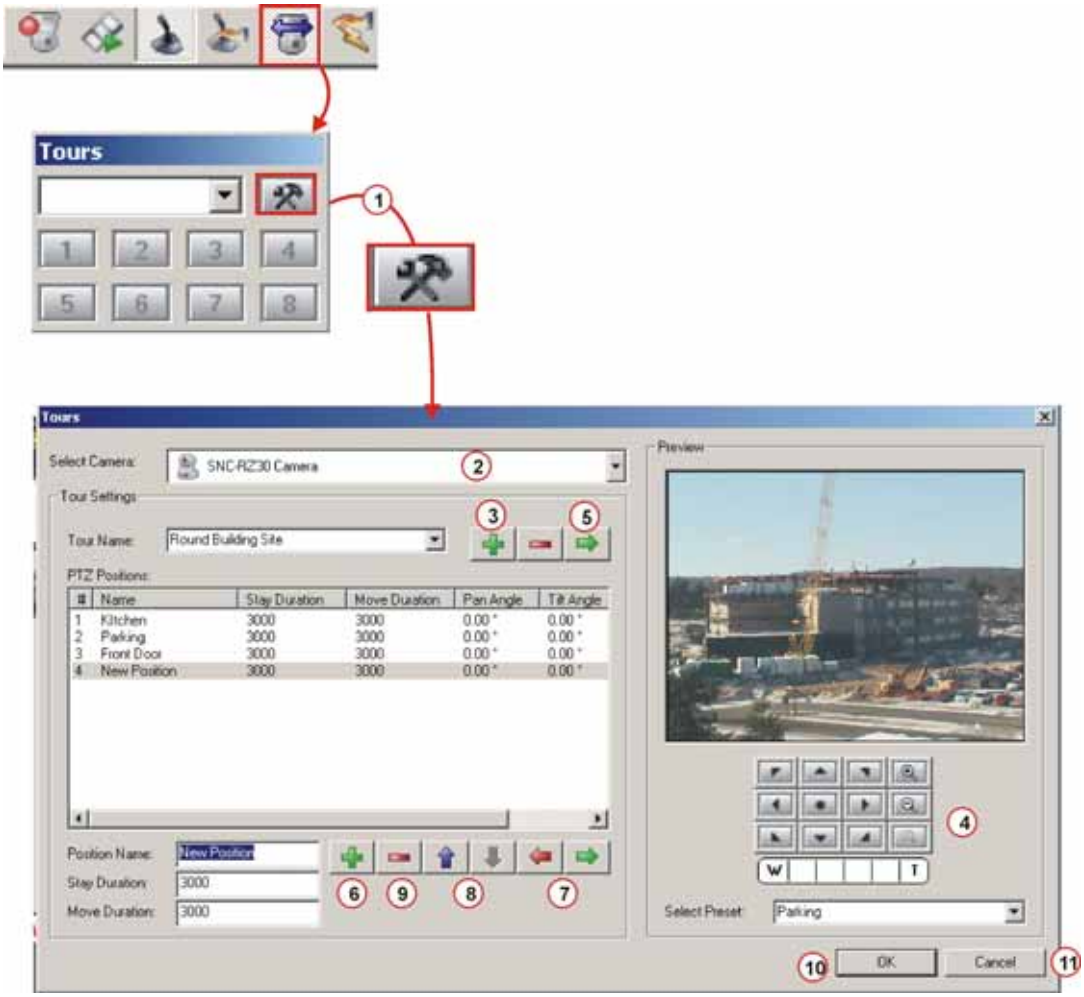


Figure 76 Building a Preset 'Tour'

Output control

Camera control outputs can be used to control devices such as electronic door locks or lights. To trigger these outputs manually use the 'Output Control' toolbar having selected the associated camera in the monitor window. For details of the connection and the signal levels see the manual that accompanies the camera.

To show or hide the output control tools, click on the 'Toggle Output Control Toolbar' icon on the main toolbar.

Figure 77 Output Control Toolbar

For details of how to configure the camera outputs so that they can be triggered, administrators should see the section 'Assigning an I/O Box Pin to a Camera' on page 144.

Recording

The RealShot Manager application allows you set up recording schedules of individual cameras and groups of cameras. See 'Scheduling Recordings' on page 49.

Scheduled recordings can be triggered by activation of external sensors attached to cameras. This 'alarm recording' facility gives the ability to start recording on Activity Detection.

RealShot Manager also supports manually-triggered one-off recordings from the monitoring window.

You can take a snapshot from a monitored camera and store the resultant video frame as a still. You can load previously saved snapshots in to a monitor window for viewing.

Manual Versus Scheduled Recording

Manual recording is started and stopped from the recording toolbar during monitoring. Scheduled recording is set up from the Recording Schedule. See 'Scheduling Recordings' on page 49, and allows you to create regular timed slots for monitoring, recording or alarm recording. Alarm recording is where you set up a recording to be triggered by an external sensor connected to a camera.

Recording During Monitoring

With the recorder toolbar open, select a camera from the monitoring window.

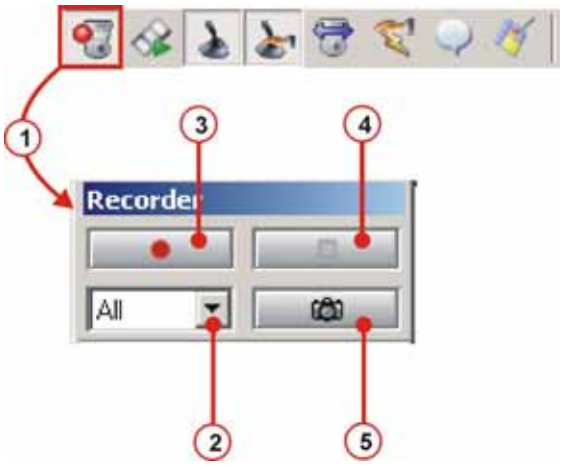


Figure 78 Manual Recording

1) If the Recorder toolbar is not visible then click on the 'Toggle Recorder Toolbar' icon on the main toolbar to display it.
2) Select the number of frames per second to record from the drop-down list.
3) Click on the 'Record' button to start recording.
4) Click on the 'Stop' button to stop recording.

If you have not selected a monitor window then a dialog will open with all the current recordings listed. Select the recording(s) you wish to stop.

5) Click on the snapshot button to take a snapshot.

Taking a Snapshot

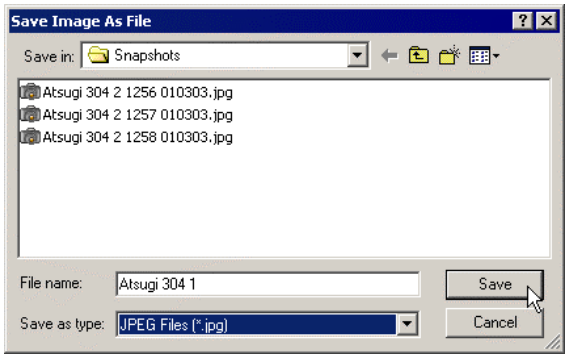


Figure 79 Saving a Snapshot

Browse to the directory where you wish to save the snapshot, enter a file name in the 'File name:' box and then select Save to create the image file.

Entering Comments During Recording

To enter comments during a manual recording use the comment toolbar, this can be opened or closed by selecting the button from the main toolbar. See Figure 80. Select this button again to remove the comment toolbar.

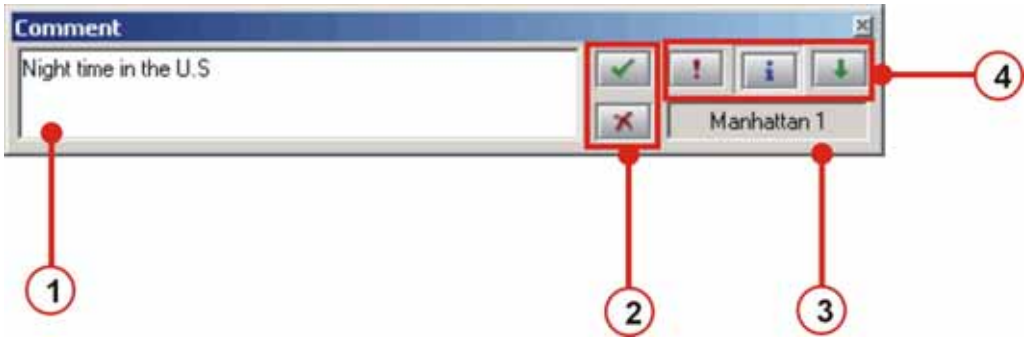


Figure 80 Entering Comments

1) Comment area – Enter your comments here as text.
2) The Apply Comment button allows you to register the comment and save it with a link to the camera. The Cancel Comment button clears the comment field in its entirety; if you wish to delete just a few letters or words then the Delete key on your keyboard.
3) Shows the camera name to help identify the video file.
4) Marks the comment as:

High Importance
Normal Importance
Low Importance

Scheduling Recordings

The Schedule Editor

To open the Schedule Editor, click on the main toolbar, which will display the current schedule as illustrated by the example shown in Figure 81.

The Schedule Editor window is split into three panes:

1) A list of cameras, sorted into groups.
2) A Calendar of activities for the selected camera. (This view can be changed to a simple activities list. See ‘Using the Week and List Views’ on page 51).
3) Event Details. For each event added to the schedule/list, selecting the event opens a form for filling in details of the required activity. For details of the Recording Schedule toolbar, see ‘The Schedule Editor Toolbar’ on page 29.

Note: By default every camera has an empty schedule. An existing schedule can be cleared to create a new one. See ‘Clearing the Schedule’ on page 60.

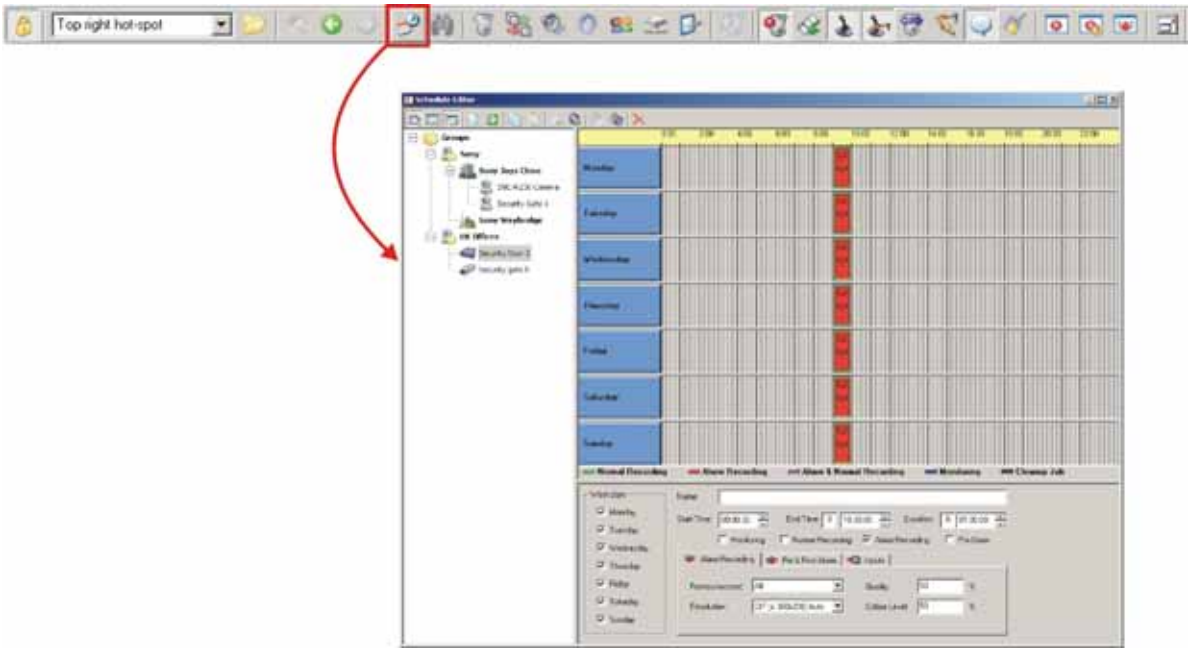


Figure 81 The Schedule Editor Window

Selecting Cameras or Groups of Cameras

Grouping Cameras

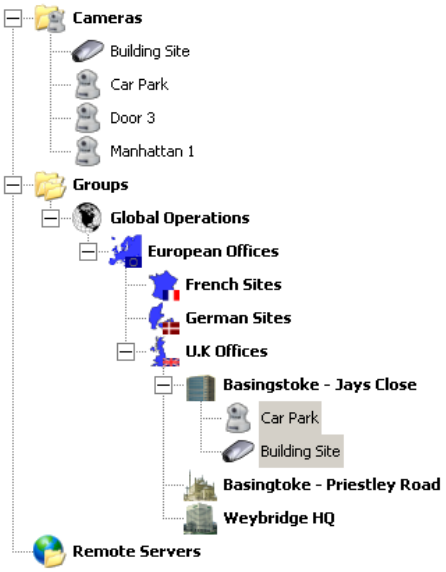


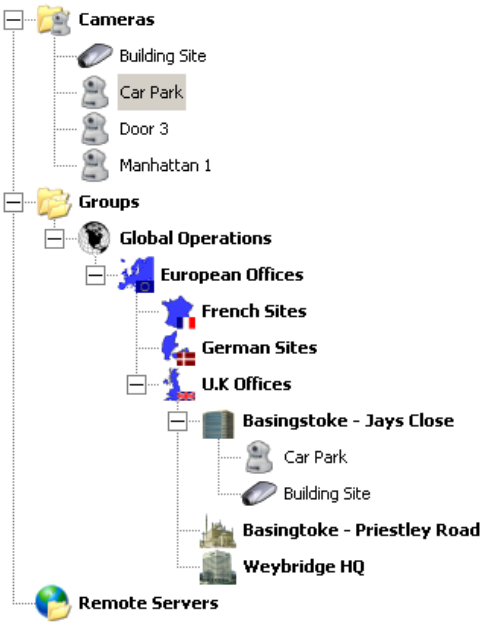
Figure 82 Selecting a Group

To create a common schedule for a group of cameras, select the group from the list in the Schedule Editor. All the cameras in the group are highlighted.

Any scheduled events you create in the schedule or list view while the group is selected will now be applied to all the cameras in the group.

Administrators see ‘Managing Groups’ on page 134 for details of how to create a group of cameras and other devices.

Note that groups can be nested i.e. there can be sub-groups within a group. You can select a group at any level.



To create a schedule of monitoring and recording activities for a single camera, expand the 'Cameras' group by selecting the + sign next to it and then select the required camera. You can also select a single camera from the lowest level of the 'Groups' tree.

Figure 83 Selecting a single Camera

Using the Week and List Views

The 'Week' and 'List' views show the same event information in different formats.

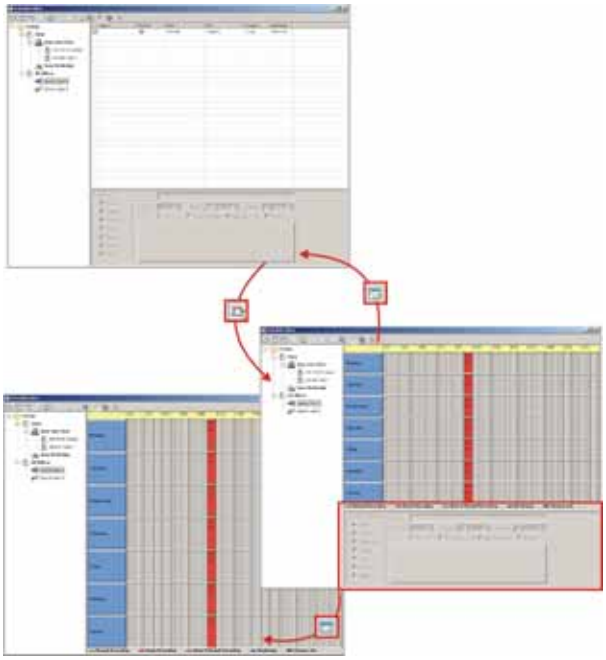


Figure 84 Schedule Views

The 'Week' view shows a weekly calendar of colour-coded bookings for the selected camera.

Switch to the 'List' view using the 'View As List' button on the Schedule Editor toolbar .

The 'List' view is a summary of all the actions associated with the selected camera.

Return to the 'Week' view using the 'View as Week' button on the Recording Schedule toolbar .

Display or hide the event details form by selecting the 'Toggle Form' button on the Schedule Editor toolbar.

Each scheduled event is shown as a single entry in the 'List' View:

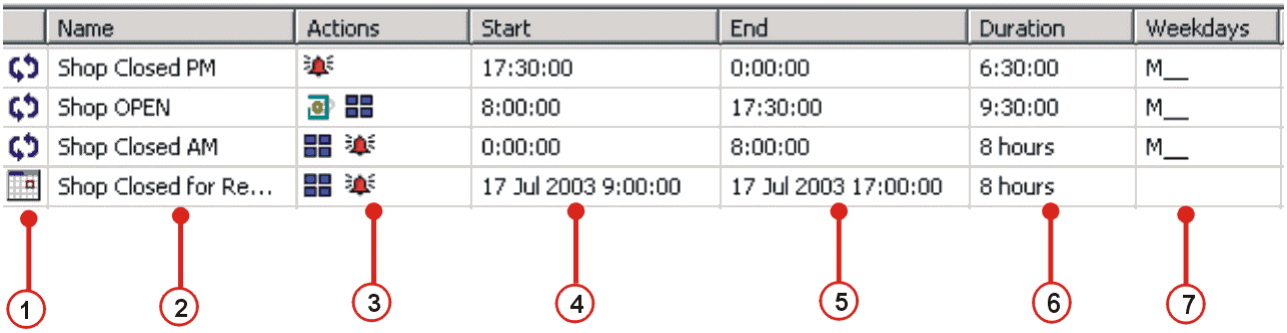


Figure 85 Example Schedule Event Entries

From left-to-right the columns are as follows:

1) Type of event: Recurring or Date/Time .
2) Event Name
3) Type of Event

Icon	**Activity**
	Monitoring
	Normal Recording
	Alarm Recording (Note: Motion Detection can raise an alarm to trigger recording).
	Pre/Post Alarm Recording
	Retail Mode Recording
	Cleanup Job

Table 1: Event Activity Icons

4) Start – Start time for recurring events is hh:mm:ss and for date/time events dd mmm yyyy hh:mm:ss.
5) End – End time for recurring events is hh:mm:ss and for date/time events dd mmm yyyy hh:mm:ss.
6) Duration – The duration of the activity in hours, minutes, seconds or hh:mm:ss.
7) Weekdays – A mask of seven codes to specify on which days of the week the activity takes place. '_' is equivalent to not active on that day of the week.

Position 1	Position 2	Position 3	Position 4	Position 5	Position 6	Position 7
M= Monday	**T = T**uesday	**W= W**ednesday	**T= T**hursday	**F=F**riday	**S=S**aturday	**S=S**unday

Events and Types

Colour-Coding and Priorities

Activities within the weekly view of the schedule are colour coded according to the chart below. The range of event types available depends on the RealShot Manager configuration. For example, the 'Retail' event type is only available if RealShot Manager is configured to work with a Retail module.

Figure 86 Event Colour-Coding

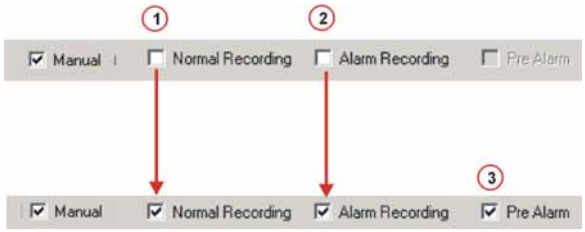


Figure 87 Event Types

The type of event or activity is chosen using the check boxes within the camera activity form. You can select multiple activities to happen simultaneously by checking multiple boxes.

External sensors such as motion-sensors, contact-closures for doors and windows and the I/O pins of a BarioNet audio device may be connected to the Sony range of surveillance cameras to trigger recording based on an alarm being raised.

If you select Alarm recording, the Pre-Alarm check box is also enabled.

If activities overlap then the highest priority activity takes precedence. Alarm recording can be used to increase the quality of the image when an alarm occurs during normal recording. Assuming that the parameters for the alarm recording are for a higher quality picture than the normal recording, the effective priorities are as follows:

1) Alarm Recording
2) Normal Recording
3) Monitoring

As an example, if you want to record at 10 frames per second (fps) as Normal Recording, for the whole day and increase the frame rate to 25 fps only when there is an active alarm as Alarm Recording:

Set the monitoring frame rate for display purposes to 10 fps (Monitoring). This will result in retrieving monitor images from the camera at 10 fps when there is no alarm. When there is an alarm, the frames will be retrieved at the highest of the overlapping frame rates i.e. 25fps.

Note: You can also set the frame rate independently for recordings to be different to the monitored frame rate. For example, you may wish to monitor a camera at 20fps but only record 5fps.

If you set the Normal Record activity to a resolution of 320x288 and the Monitor activity resolution to 720x576 the image retrieved from the camera will be 720x576. So the maximum values for the frame rate and resolution from all current activities are always used.

Retail Events

RealShot Manager can be integrated with an external retail module for gathering data on customer movements. If the retail module has been enabled it will be possible to add retail events to the timed schedule to gather retail data. These events are colour-coded according to the scheme shown in Figure 86. For details of how to configure the retail module, see the section ‘External Module Integration‘ on page 99.

Retail events are a special case and must be added using the dedicated toolbar buttons see Figure 88.

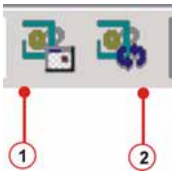


Figure 88 Retail Event Buttons

1) Add timed Retail event.
2) Add recurring Retail event.

Cleanup Events

Cleanup events purge stored recordings associated with the selected camera(s):

Figure 89 Cleanup Event Buttons

Cleanup events are added using the toolbar buttons:

1) Add timed Cleanup event.
2) Add recurring Cleanup event.

The recordings held by the selected cameras are purged according to the cleanup job parameters.

Highlight the Cleanup job in the list or week view to set or modify the parameters. See Figure 90.

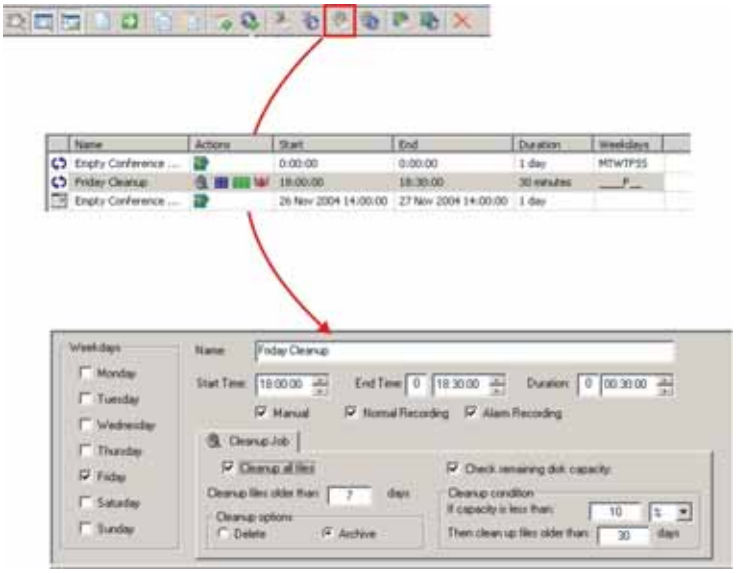


Figure 90 Date/Time Cleanup Parameters

Note: The ‘Weekdays’ check boxes are used to specify which days of the week the purge is to take place. See Figure 91. The Cleanup Job will start at the allocated ’Start Time’ and is not repeated.

Start/End Time and Duration - Specify the period over which the cleanup will happen.

Note: Please ensure that the Start and End times are different i.e. that the resultant Duration of the cleanup event is not zero.

Manual/Normal/Alarm - check the types of recordings to be be purged

Cleanup files older than – minimum age in days of the recordings to be purged

Cleanup All Files - when this is checked, all files found of the specified type(s) will be deleted regardless of the age and capacity settings.

Cleanup options

Delete – Files meeting the cleanup criteria are deleted permanently.

Archive – Files are moved to the associated archive system and may be recovered at a later date.

Check remaining disk capacity – enables or disables checking the disk capacity of the storage

‘If capacity is less than’ - when the capacity is lower than a certain percentage or specified number of MBytes, you can modify the minimum file age. Use the drop-down list to choose between a percentage or MByte threshold.

Use the ‘Then clean up files older than:’ box to enter the modified minimum file age.

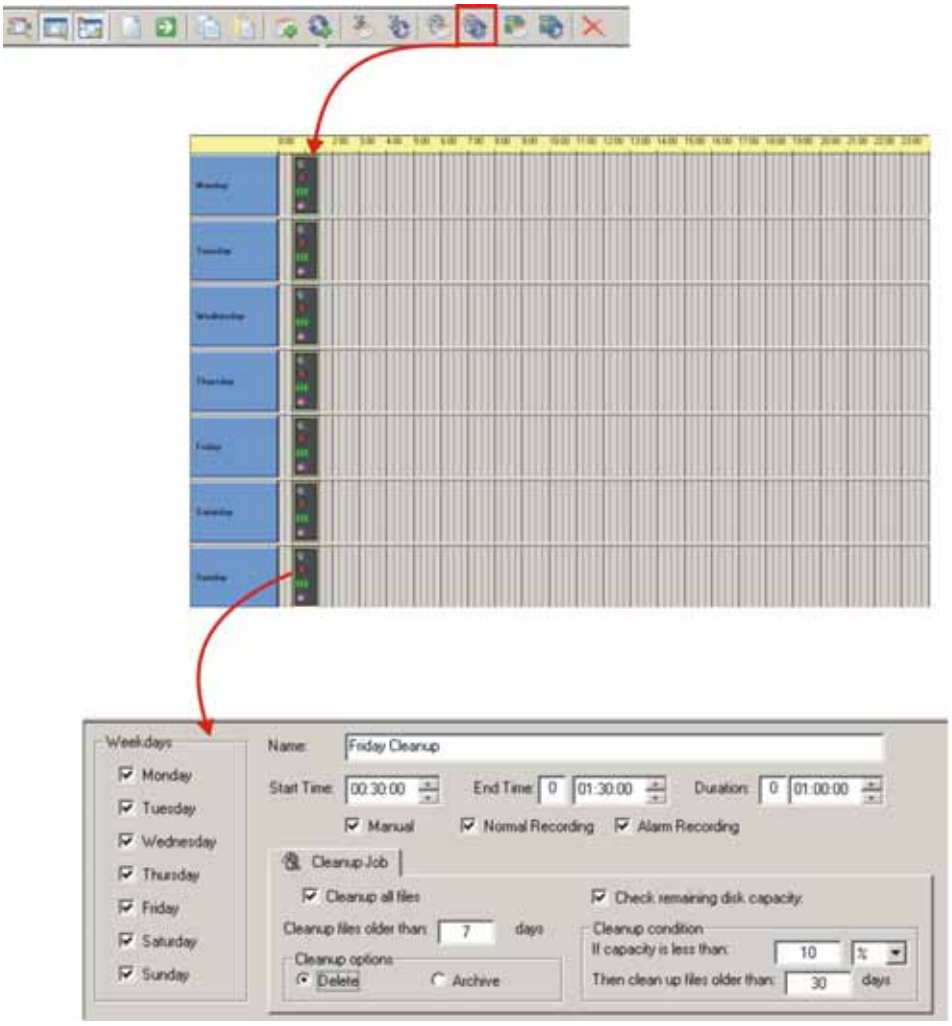


Figure 91 Inserting a Recurring Cleanup Job

In a recurrent cleanup job, see Figure 91, the 'Weekdays' check boxes are used to specify on which days of the week the cleanup job is to run. The remaining event parameters are the same as for a Date/Time cleanup job, see Figure 90. The Cleanup job starts at the allocated start time and completes automatically. It is not repeated. The notional duration is only to warn other users that this period is reserved for housekeeping activities.

One example of the consequences of the fact that cleanup events are edge-triggered is as follows:

If you schedule a cleanup job to last from 00:00:00 until 23:59:59 it will only trigger once, and once only, at 00:00, it has the same effect as scheduling from 00:00 till 00:01. You cannot schedule a cleanup job that will allow cleanup jobs to run all the time by scheduling one event every day lasting from 00:00:00 till 23:59:59 (i.e no gap in the schedule). The result of this attempt to set '24 hour scheduling of cleanup jobs' will be that a cleanup job will be run once only each day at the start time of the event.

Motion Detection Events

Motion Detection (MD) is a different kind of activity detection and is implemented in a similar way using I/O 'pins'. However, Activity Detection (AD) is performed by the camera and Motion Detection is processed in software by RealShot Manager. This results in a difference between MD and AD pins. MD pins can be switched on and off with a certain configuration following a certain schedule.

The scheduling facility makes it possible to change the area where motion detection is performed at different times. The schedule is created by selecting different motion detection configurations, each configuration has an associated camera preset and one or more motion detection areas.

MD events can trigger alarm recordings if the MD pin is selected as input pin for the alarm recording. MD schedule items can be recognised by their orange colour with an icon like a little running human being inside.

Monitoring and normal recording is also available when scheduling an MD event, this allows the scheduling of a MD event that is modified to request a lower frame-rate by also selecting the monitoring tab and specifying a lower frame rate (fps), this saves processing power and is useful as MD is very CPU intensive. The same logic is true for normal recording but the lower frame-rate specified in this tab is also recorded with the resulting MD metadata and stored in the CAM file and thus the motion detection areas can be shown on playback (the green boxes that indicate movement).

Motion detection events specify the period over which RealShot Manager will detect moving objects.

Use the dedicated menu icons to add a recurring or date/time Motion Detection event, see ‘Adding a Motion Detection Event’ on page 59.

This event will appear in the schedule for the selected camera. The duration, start/stop times and frequency can be modified in the same way as for an Alarm Recording event, see ‘Modifying Activities’ on page 60.

Details of how to configure the areas for motion detection are given in the section ‘Motion Detection’ on page 123 and the Motion Detection Event parameters are explained in ‘Motion Detection Event Parameters’ on page 63.

Building a Schedule

Explaining the Schedule

The Weekly Schedule is a view of the events scheduled to occur every week, see Figure 92. Only events that happen on specific dates are shown in the List view.

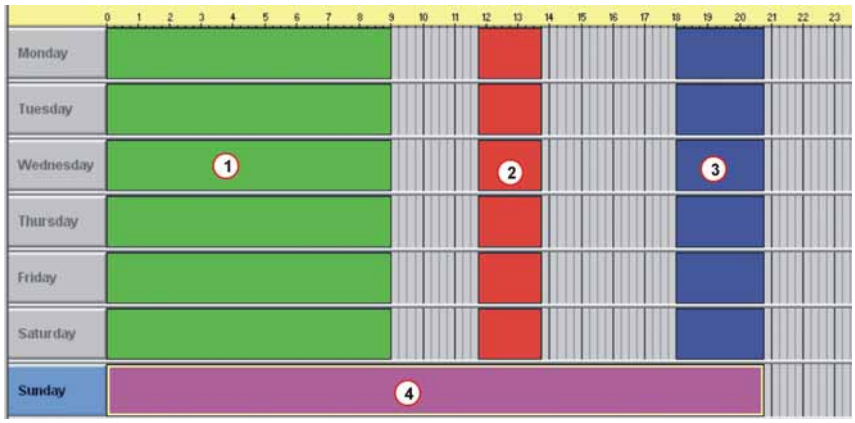


Figure 92 The Weekly Schedule View

The simplified example schedule shown above is made up of four individual activities:

1) A Normal Recording activity between midnight and 9:00 Monday through Saturday.
2) An Alarm Recording Activity between 12:00 and 14:00 Monday through Saturday. Note that you do not know without looking at the associated form whether the camera is being monitored during this period, background monitoring does not affect the colour of the activity.
3) Monitoring only between18.00 and 20.45 Monday through Saturday.
4) Simultaneous recording and Alarm Recording between midnight on Saturday and 20.45 on Sunday.

The schedule grid is graduated in periods of 15 minutes. Activities can be manipulated by dragging the start or end of the event to a new time. You can also adjust the start and end time by modifying the form on the bottom-right of the screen if you want to start recording at any time interval that does not fall on a 15-minute boundary.

The event type is illustrated within each activity by the same icons as shown in Table 1.

Adding Recurring Activities

The following steps describe the example of adding a scheduled Monitoring activity see Figure 93:

1) Select a camera or group of cameras for which you wish to create a new scheduled event.
2) Click on the 'Insert Recurrent Item' icon on the Recording Schedule toolbar to insert the new activity into the Week View. This will not reset the values in the form so the new activity will start out as a copy of the previously edited one.
3) Select the days of the week on which the activity is to take place using the weekday check boxes. See Figure 93 (1).
4) Enter an event name
5) Enter a Daily Start Time and End Time or Duration.
6) Select the required combination of activity types using the check boxes; in this case Monitoring only is selected. See Figure 93 (2).
7) Select the required quality parameters for the monitor image. See Figure 93 (3). For further details of the parameters see 'Recording image quality' on page 61.

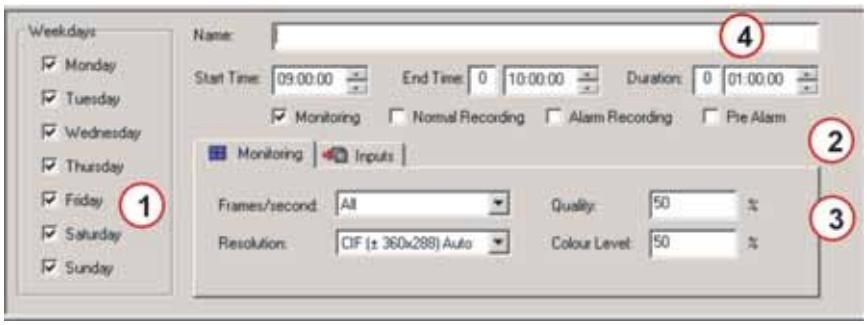


Figure 93 Details of a Monitoring Event

Adding Timed Activity

Select a camera or group of cameras and click on the button on the Schedule Editor toolbar to open the related schedule in the list view.

Figure 94 A Timed Activity

1) Enter the details of the required event into the form as for a recurrent item but instead of setting the days of the week:
2) Enter a name for the event.
3) Set the 'Start Date' and Time and the 'End Date' and Time.

Select the button from the Schedule Editor toolbar to insert these details as an item in the event list.

The resultant entry in the list will have a duration calculated from the Start and End and will be marked with the calendar icon to show that it is a date/time event.

	Name	Actions	Start	End	Duration	Weekdays
	Late Morning		14 Mar 2003 9:00:00	14 Mar 2003 12:00:00	3 hours	

Figure 95 Timed Activity Details

For further details see 'Using the Week and List Views ' on page 51.

Adding a Motion Detection Event

To add a recurring Motion Detection (MD) Event, select the 'Insert Recurrent Motion Detection Item' icon from the Schedule Editor toolbar, see Figure 96. To add a date/time Motion Detection Event, select the 'Insert Date/Time Motion Detection Item' icon from the Schedule Editor toolbar, see Figure 97.

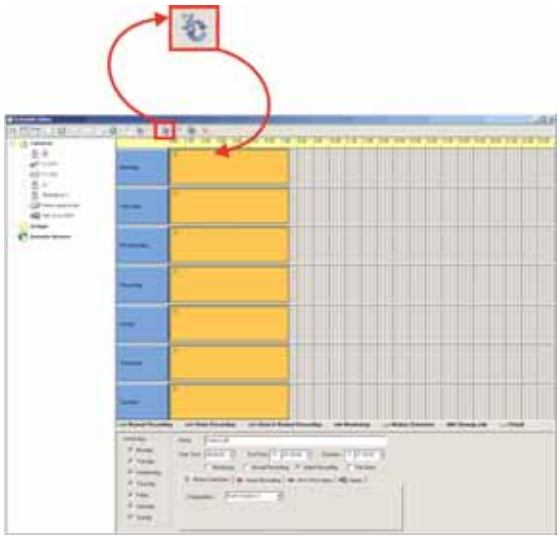


Figure 96 Adding Recurring MD Item

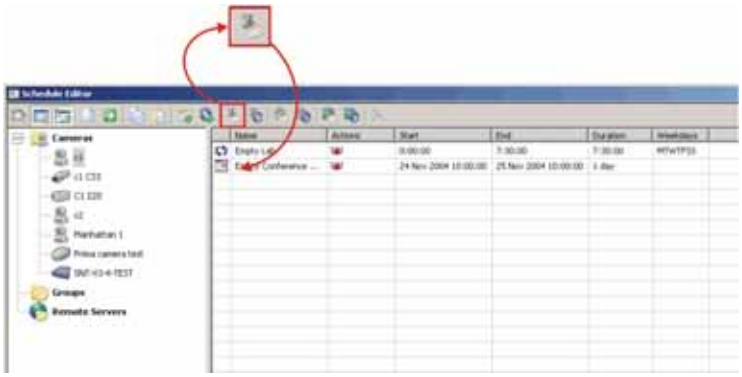


Figure 97 Adding Date/Time MD Item

Motion Detection Event parameters are explained in 'Motion Detection Event Parameters' on page 63.

Removing Activities

The procedure for deleting a scheduled event is the same from either of the two views:

Select the event you wish to remove and then select , or press the <DEL> key.

Clearing the Schedule

To completely clear the schedule associated with the selected camera or camera group, click on the 'New Schedule' button on the Recording Schedule toolbar .

You will be asked to confirm this action with the message 'Are you sure you want to start with an empty schedule for the selected camera(s)?'. Answer Yes to clear the schedule and No to leave the schedule intact.

Modifying Activities

To modify an activity, select the entry in either the Week View or List View and make the changes required in the activity form.

To save the changes, select the icon on the Recording Schedule toolbar.

If you make changes to the schedule and try to select another camera or leave the Recording Schedule window, you will be prompted with the following message:

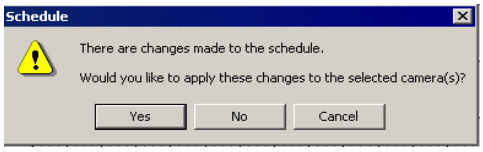


Figure 98 Schedule Change Confirmation Dialog

Select Yes to save your modifications, No to abandon them and Cancel to continue editing this camera's schedule.

Figure 99 Moving an Event

You can relocate activities within the same day of the weekly calendar view by dragging the whole activity to the new required time.

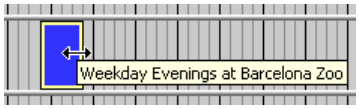


Figure 100 Trimming an Event

To trim an event in the weekly calendar view, you can drag the start or end of the activity to a new time.

Monitoring Activity Parameters

Monitor Image Quality

The parameters for a monitoring activity all relate to the quality of the image to be displayed.

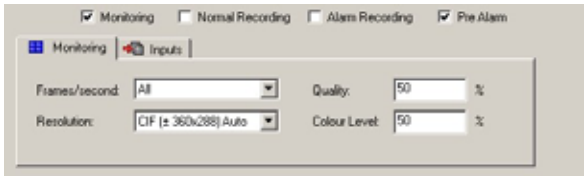


Figure 101 Monitoring Parameters

Ensure that the ‘Monitoring’ check box is enabled.

For a description of the values allowed in each field. See the Administrator’s guide section ‘ Setting Camera Properties’ on page 121.

Normal Recording Parameters

Recording image quality

The parameters for a normal recording activity all relate to the quality of the image to be recorded.

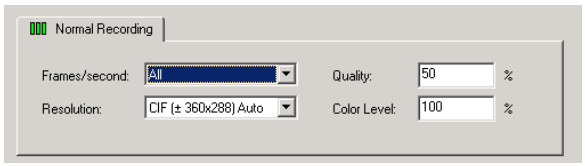


Figure 102 Recording Parameters

Ensure the ‘Normal Recording’ check box is selected.

For a description of the values allowed in each field. See the Administrator’s guide section ‘ Setting Camera Properties’ on page 121.

Alarm Recording Parameters

Alarms can be triggered based on changes in the state of camera input pins Note that the tabs for entering Alarm and Pin details only appear when the ‘Alarm Recording’ check box has been enabled:

Alarm Image Quality

The parameters for an alarm recording activity all relate to the quality of the image to be recorded.

Alarms are triggered when a camera sensor is activated. See the Administrator’s guide section ‘Adding Pin Details’ on page 143.

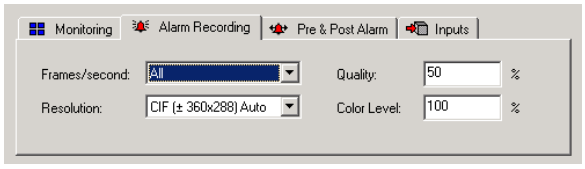


Figure 103 Alarm Parameters

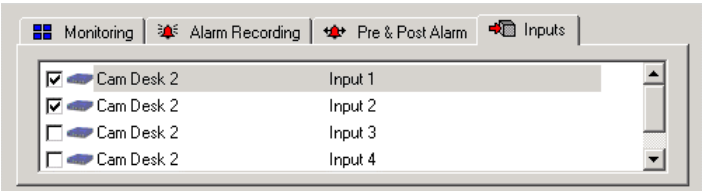
Ensure the ‘Alarm Recording’ check box is selected.

For a description of the values allowed in each field. See ‘ Setting Camera Properties’ on page 121.

In typical use, the quality of the image required from an alarm recording should be better than that required during a normal recording. This is to ensure that the images collected following an alarm are clear enough to identify the cause of the alarm.

Selecting Camera Pins

Each input pin from a camera can be selected to trigger an alarm recording or monitoring. Selecting multiple pins results in 'OR' functionality. The alarm recording is triggered if any of the selected pins changes state.



Enable the check box beside the input pins that should trigger the alarm recording or monitoring activity.

Figure 104 Input Selection

Pre and Post Alarm Parameters

The pre-alarm and post-alarm parameters for an alarm recording activity relate to the duration of the recording to be triggered by an alarm.

Ensure the 'Alarm Recording' and 'Pre-Alarm' check boxes are both selected.

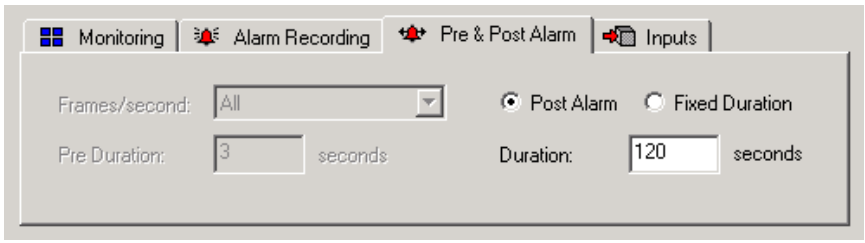


Figure 105 Pre and Post Alarm Parameters

- The pre-alarm frames per second ('Frames/second') allows you to capture the images recorded during the moments immediately before an alarm. See Figure 105.
- The 'Pre Duration' is the period of time prior to an alarm for which images should always be cached. These cached images will have the quality and fps setting of the associated alarm recording.
- When an alarm occurs these images are saved to a file with the fps specified in this tab.
- When an alarm has occurred, the time for which recording is maintained after the alarm is set in 'Duration field'.
- If 'Post Alarm' is selected then the recording stops n seconds (Duration) after the alarm condition is cleared; this means that the total duration recorded is duration of alarm + Duration.
- If Fixed Duration is selected then recording continues for the period specified by the Duration field regardless of whether the alarm is cleared during this time.

The diagram shown in Figure 106 illustrates the relationships between the different time parameters:

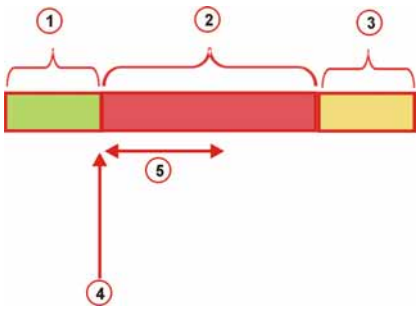


Figure 106 Alarm Timings

1) 'Pre Duration' – Images are cached for this duration regardless of whether an alarm is activated. They are saved when an alarm is activated.
2) 'Alarm Duration' – The alarm signal is active for this period.
3) (Post Alarm) 'Duration' – If the Duration field is set with Post Alarm selected then recording continues for this number of seconds after the alarm is cleared.
4) Alarm recording starts at the point the alarm is raised.
5) If Fixed Duration is selected then recording continues for the number of seconds in the Duration field regardless of whether the alarm is cleared during this time.

To trigger an output, select the output from those available (highlighted), in the range A-H. For instructions on how to set up the camera outputs; see 'Assigning an I/O Box Pin to a Camera' on page 144.

Motion Detection Event Parameters

Configuration

The configuration drop-down list on the 'Motion Detection' tab, see Figure 107, allows you to specify the area of interest for motion detection over the specified period. Details of how to configure the areas for motion detection are given in the section 'Motion Detection' on page 123.

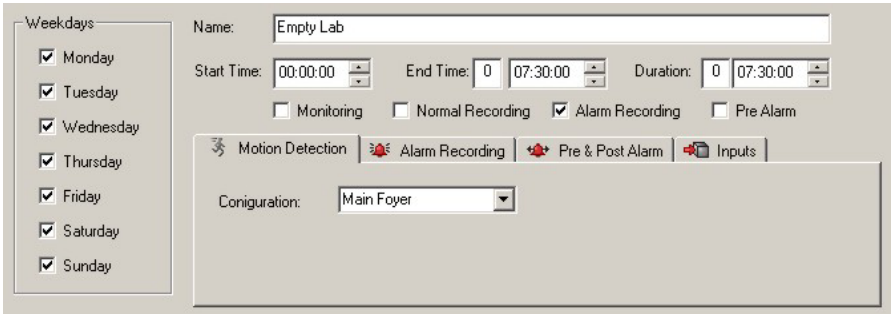


Figure 107 Motion Detection Event Parameters

Inputs

From the Inputs tab you can select the motion detection pin to trigger the alarm recording associated with the detection of motion in the configured area. Details of how to configure the areas for motion detection are given in the section 'Motion Detection' on page 123.

Normally you will select the pin associated with the camera in whose schedule this alarm recording event appears. However, if the Motion Detection IO-Box has been configured to allow selection of another camera's pin it may be possible to start a recording from a different camera. You may wish to do this if the first camera is monitoring an entrance but a second camera is monitoring something valuable such as a painting in the room.

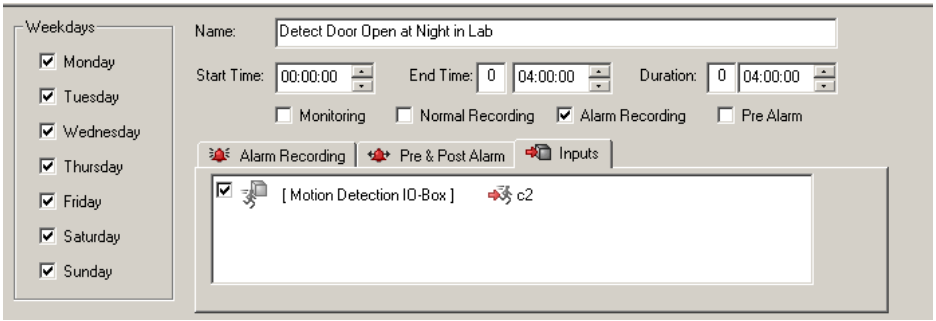


Figure 108 Selecting a Motion Detection Input

Copying and Pasting Schedules

To use a schedule set up for one camera/group for a second camera/group, use Copy and Paste on the Recording Schedule toolbar to duplicate the schedule. See 'Selecting Cameras or Groups of Cameras' on page 50.

1) With the first camera/group selected, click on the 'Copy Schedule' icon .

2) With the second camera/group selected, click on the 'Paste Schedule' icon .

Playback

You can load any previous recording into a monitor window and play it back to review the images captured.

Searching for Recordings

To search for a previously recorded file to view, select the 'Search Recording' button from the main toolbar or the 'Search…' button from the Playback toolbar. Both of these are represented by the image of a pair of binoculars .

Selecting the Camera(s)

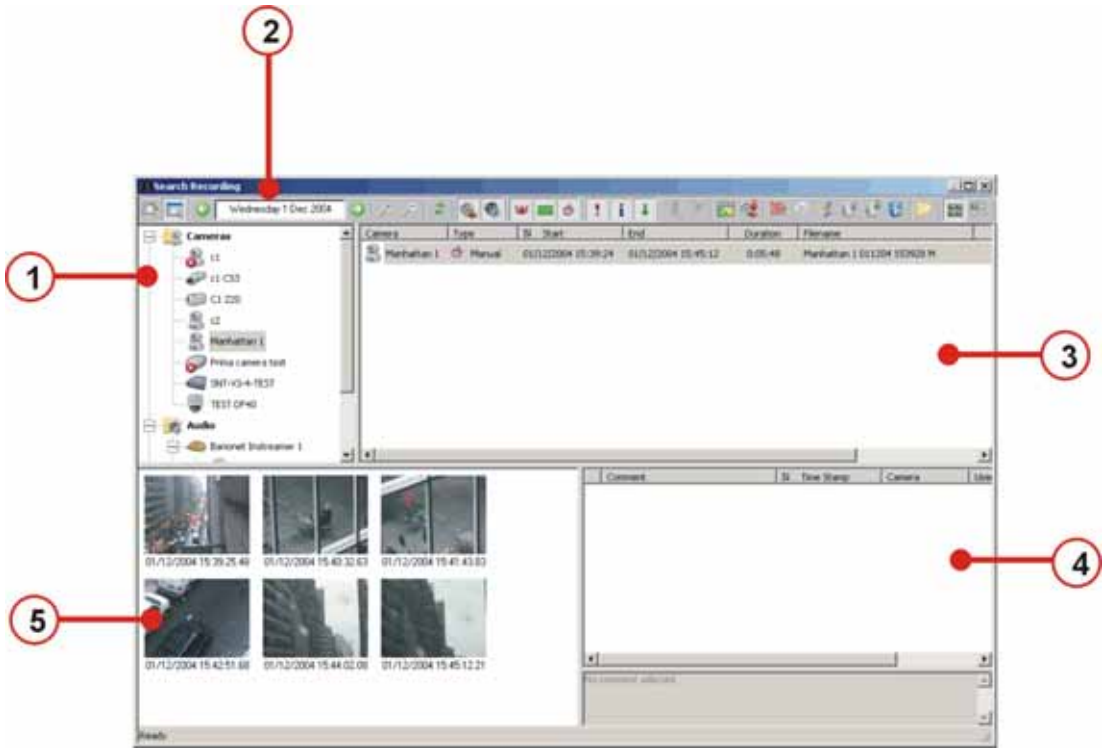


Figure 109 Search Recording - List View

1) To perform a search based on the camera that sourced the recording, select the camera from the camera list. You can add cameras individually to the search by holding down the 'Shift' or 'Ctrl' key whilst selecting the additional cameras with the left mouse button.
2) To refine the search based on a date/time period use the calendar facilities provided on the Search Toolbar. See 'Searching Based on Date/Time' on page 65.
3) The recordings selected are displayed in one of two views; the Recording List and the Recording Timeline. Figure 109 shows the results as a Recording List. See 'Using the Timeline View' on page 67. You can double-click on an entry in either view to open the associated video file in the current playback monitor.
4) Any Comments associated with the recordings are listed separately below the files. See 'The Comment Toolbar' on page 33.
5) The file can also be represented by picture stamps. See 'Picture Stamps' on page 69.

The search results do not automatically refresh if new recordings are being created, select the 'Refresh Recordings' icon from the 'Search Recording' toolbar to update the file list.

Searching Based on Date/Time

Using the calendar controls on the 'Search Recording' toolbar you can zoom in and out to focus on a particular period in time and you can scan forward or backward in time for related recordings.

Zooming the Timeframe In and Out

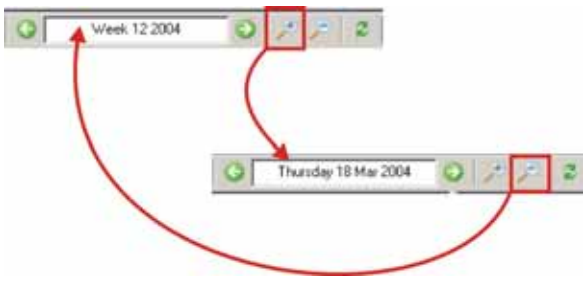


Figure 110 Zooming

Use to focus in on a smaller timeframe. For example:

Year : 2003 to

Month : February 2003 to

Week : Week 6 February 2003 (from 1st Jan) to

Day : Wednesday 12th Feb 2003 to

Time : 12 Feb 2003 13.31

Fine Time: 12 Feb 2003 13.31:19 (including seconds).

The above example is based on a European date format of dd/mm/yy; i.e. dd: date, mm: month, yy: year. The date format may vary from those described above if the local date/time format is different, e.g. the American date format is mm/dd/yy and the Japanese date format is yy/mm/dd.

Use to widen the focus again to increase the range of recordings displayed.

Specifying the Date/Time Range

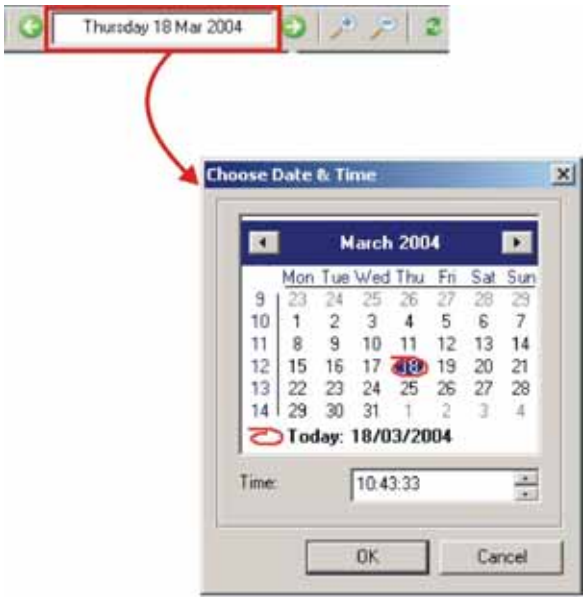


Figure 111 Using the Calendar

If the date you require is not recent then you can use the full calendar to find it. Click anywhere in the date box to open the calendar.

Select the date and/or time you require and select OK.

To select the next time interval select

To select the previous time interval select

The interval forward or backward is the same as that displayed i.e. by one month if a month is displayed.

The range of recordings selected will be displayed in the list or on the timeline.

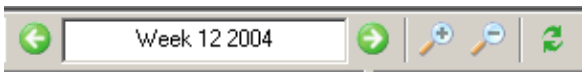


Figure 112 Moving in Time

To select the next time interval select . The interval advanced is the same as that displayed e.g. by one week if a week is displayed.

To select the previous time interval select . The interval retarded is the same as the level displayed e.g. by one hour if a time is displayed to the nearest hour.

Using the Timeline View

You can toggle between the list and timeline views in the Search Recording window by selecting the and icons on the 'Search Recording' toolbar, see Figure 113.

Recorded events on the timeline are colour-coded in the same way as scheduled recordings in the Recording Schedule. See 'Colour-Coding and Priorities' on page 53.

You can double-click on any recorded event to open the video file in the currently selected monitor window.

Recordings are automatically purged according to the criteria entered in the Cleanup tab of the General Settings. See 'Alarm Settings' on page 95.

In either view, the Comment window will show all comments associated with visible recordings.

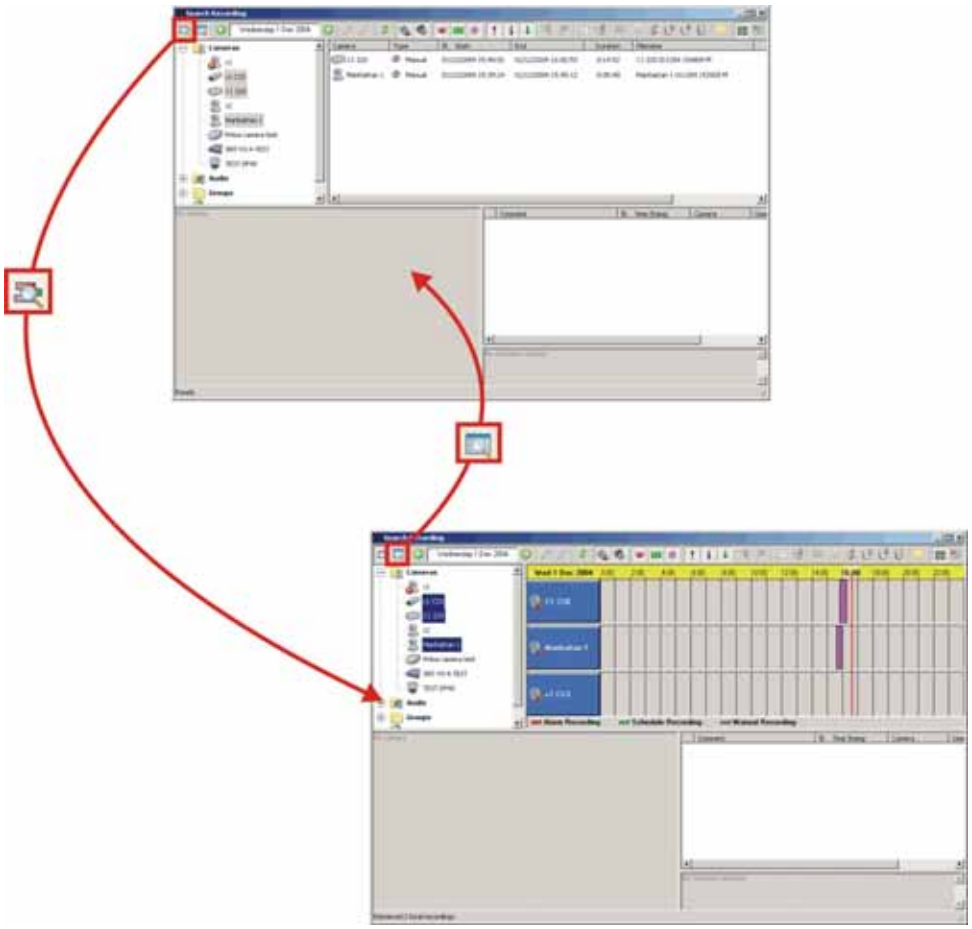


Figure 113 Search Recording Views

If a large number of cameras are selected, the timeline view may become crowded. Focus your search on a small number of cameras to improve readability. For instructions on how to select and deselect cameras see ‘Selecting the Camera(s)’ on page 65.

The red line (walker) represents the current time, see Figure 114. When you zoom in its position will be used as the current time around which to center the zoom. If you are viewing a week and you drag the walker to Monday you will zoom in to this day when pressing .

Left double-clicking on the header bar performs a zoom in and right. Right double-clicking performs a zoom out.

The walker gives you an indication of where you are in the timeline, e.g. when you are in a week view and the current time is 10:00 on Monday, the walker will be positioned toward the left. If you zoom in, the Monday will be shown in detail and the walker will stay at 10:00, which results in it jumping to the far right.

Figure 114 Zooming in on the Timeline

Modifying the Search Window

Picture Stamps

For each file recorded, the RealShot Manager application generates one or more picture stamps to represent the file in a storyboard view.

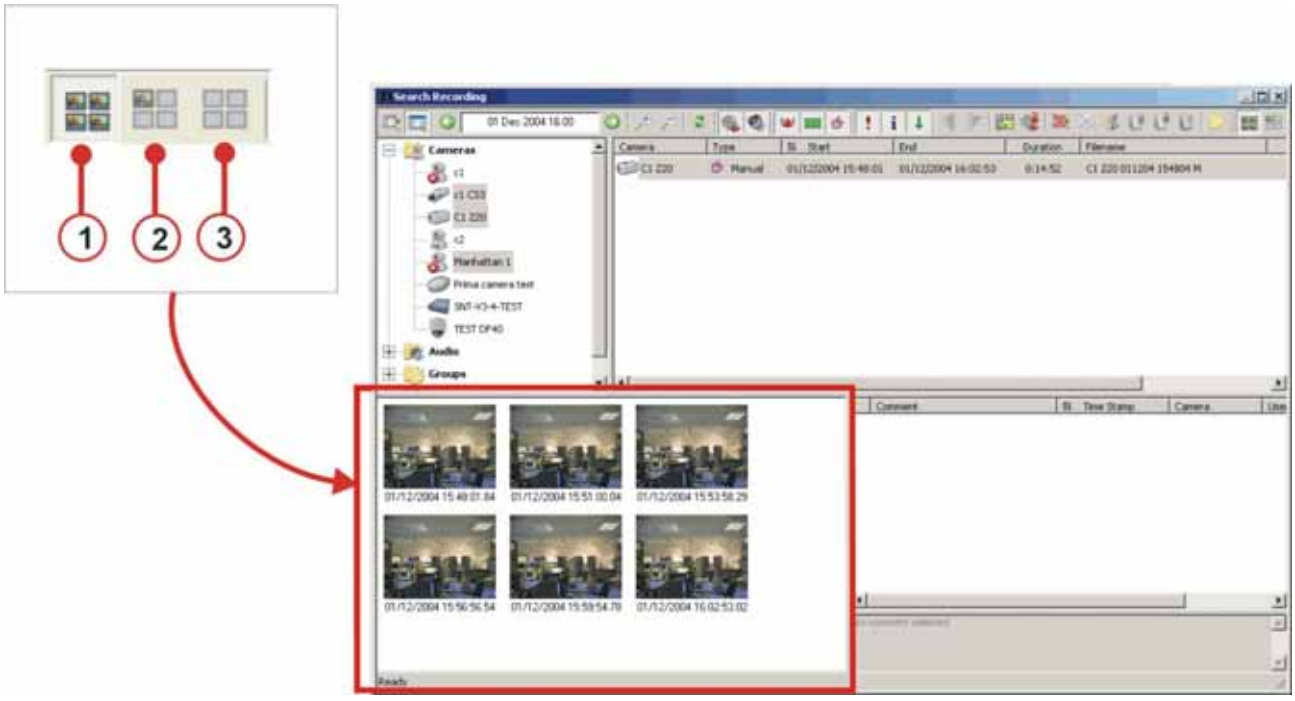


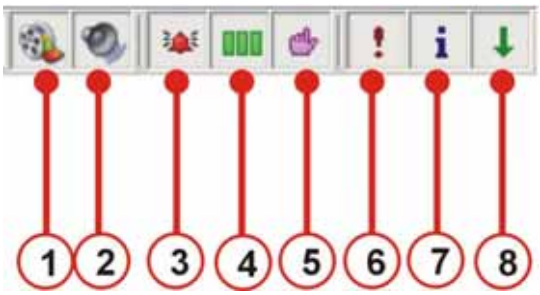
Figure 115 Storyboard

An area of the Search Recording window displays the storyboard of picture stamps associated with the selected file. See Figure 115. Use the three picture stamp control buttons on the toolbar to select the number of picture stamps displayed in this area.

1) 'Maximum Picture Stamps' – Displays as many picture stamps from the selected file as will fit in the window. If a large number of picture stamps are associated with this file then the storyboard area will provide scroll bars so that you can move backward and forward in the list.
2) 'One Picture Stamp' – Displays the first picture stamp associated with the selected file.
3) 'Do not show Picture Stamps' – No picture stamps are displayed.

Filtering

Following a search, the number of results returned may be high. The filter buttons allow you to refine your search. The list can be filtered on priority or recording type:



By default no filters are applied so all of the buttons are pressed-in.

To activate a filter and remove the affected entries from the list or timeline, click on the appropriate button to deselect it.

Figure 116 The Filter Buttons

1) Display/Hide video recordings
2) Display/Hide audio recordings
3) Display/Hide alarm recordings.
4) Display/Hide scheduled recordings
5) Display/Hide manual recordings
6) Display/Hide High priority comments.
7) Display/Hide Normal priority comments.
8) Display/Hide Low priority comments.

Browsing for Files

You can select recordings to play back by accessing the video files using the Browser.

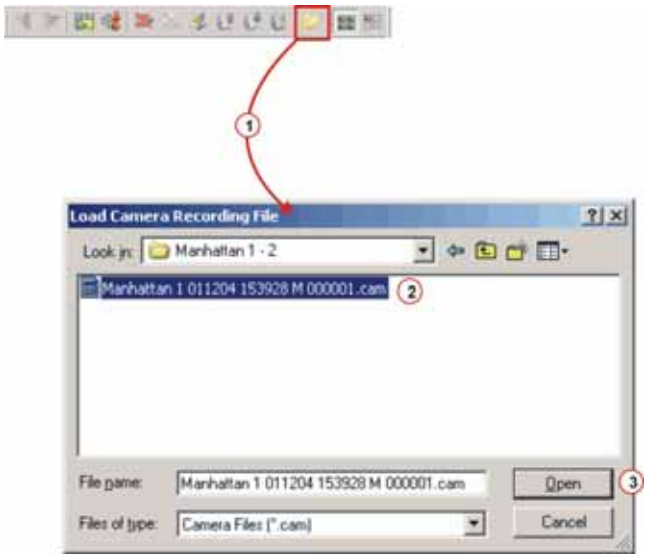


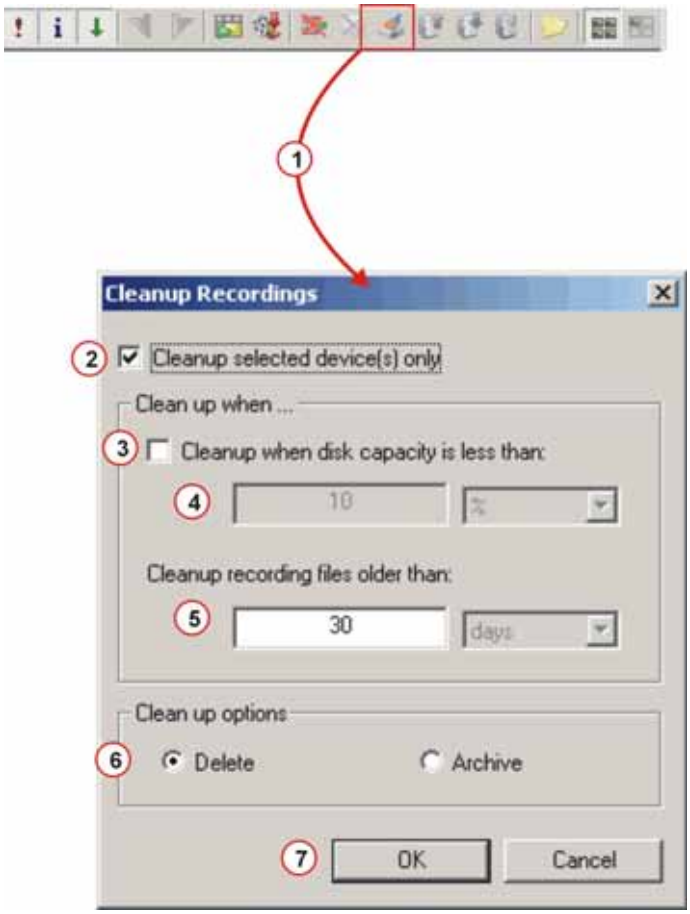
Figure 117 The Browse Window

1) Select the 'Open Recording' icon from the toolbar. This will open a browse window from which you can locate the video file you wish to play back.
2) Select the video file to be opened.
3) Select Open. The video file is opened in the currently selected playback window for viewing.

Cleaning Up Recordings

Recordings can be deleted manually from the 'Search Recording' window. Select one or more recordings from a search results list and then from the toolbar.

As a further insurance against disks becoming full individual purge events can be scheduled for files recorded from particular cameras. You can create regular schedule jobs to perform automatic file purging and set ageing criteria for files. Recordings are then automatically purged according to the cleanup schedule. See 'Cleanup Events' on page 54.



1) Select the ‘Cleanup…’ icon . This will open a window in which you can set the parameters for cleaning up old recordings.
2) To restrict the cleanup to only those cameras and/or audio devices selected in the Search Recording window, select the ‘Cleanup selected device(s) only’ check box.
3) To purge all disks based on remaining capacity enable the ‘Cleanup when disk capacity is less than:’ check-box.
4) Select either a percentage or MegaBytes (MB) from the right-hand drop-down list and enter a number in the left-hand box.
5) In addition, you can purge old files automatically. Enter a number of days in the ‘Cleanup all recordings older than:’ box. This will delete recordings even when the checkbox in 3) above is not set.
6) To Delete all recordings matching the criteria permanently, select the ‘Delete’ option. If your RSM system is interfaced to an archive you can select the ‘Archive’ option instead. Files meeting the cleanup criteria will be sent to the archive system and can later be restored.
7) Select OK to save your settings. Select Cancel to exit without saving them.

Figure 118 Cleanup Settings

Managing Archived Recordings

Recordings that have been sent to an archive system can be recovered at any time.
Select a recording from the search results and use one of the icons on the archive section of the toolbar, see Figure 119, as follows:

1) Select ‘Restore Recording’ to mark this item for retrieval from the archive. A local copy will be created that can be used for previewing.
2) Select ‘Unrestore Recording’ to delete the local copy of an archived recording previously created by a restore.
3) Select ‘Archive Job List’ to view a list of the currently active archive activities.
4) Select Refresh to update the archive job list.
5) Select Close to remove the archive job list window.

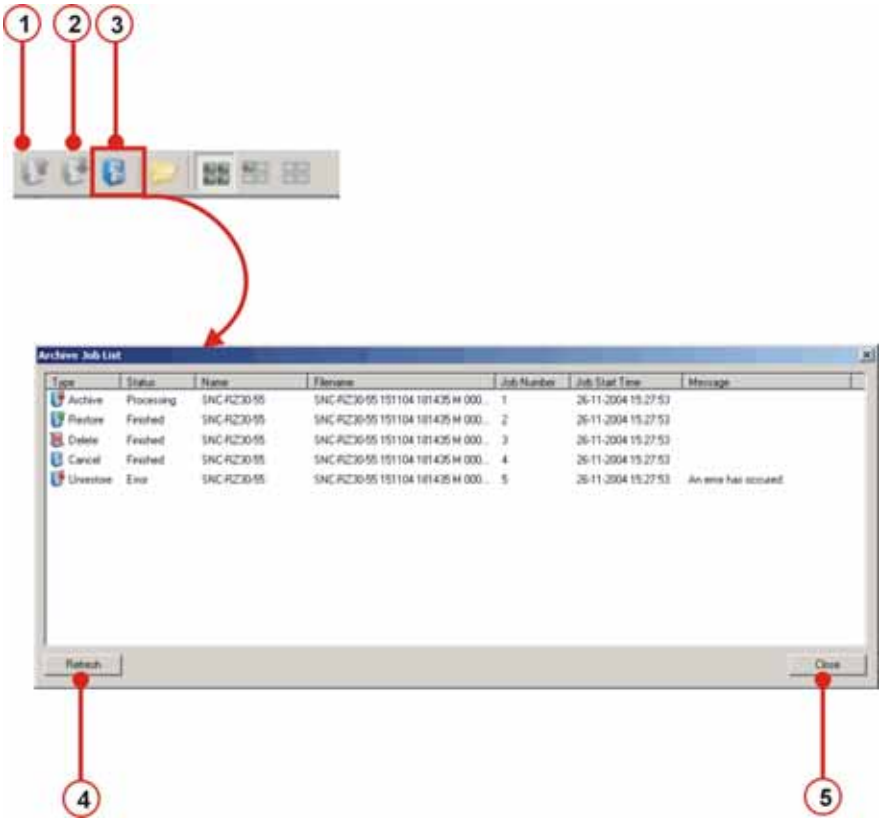


Figure 119 Restoring from Archive

Previewing a Recording

Perform a search to locate the recording you wish to preview (see ‘Searching for Recordings’ on page 64), select a recording from the search results list and then select the ‘Preview Selected Recording’ icon from the toolbar .

The ‘Playback Recording’ toolbar is displayed and the first frame of the file is cued in the preview window that is opened in the bottom right pane of the ‘Search Recording’ window.

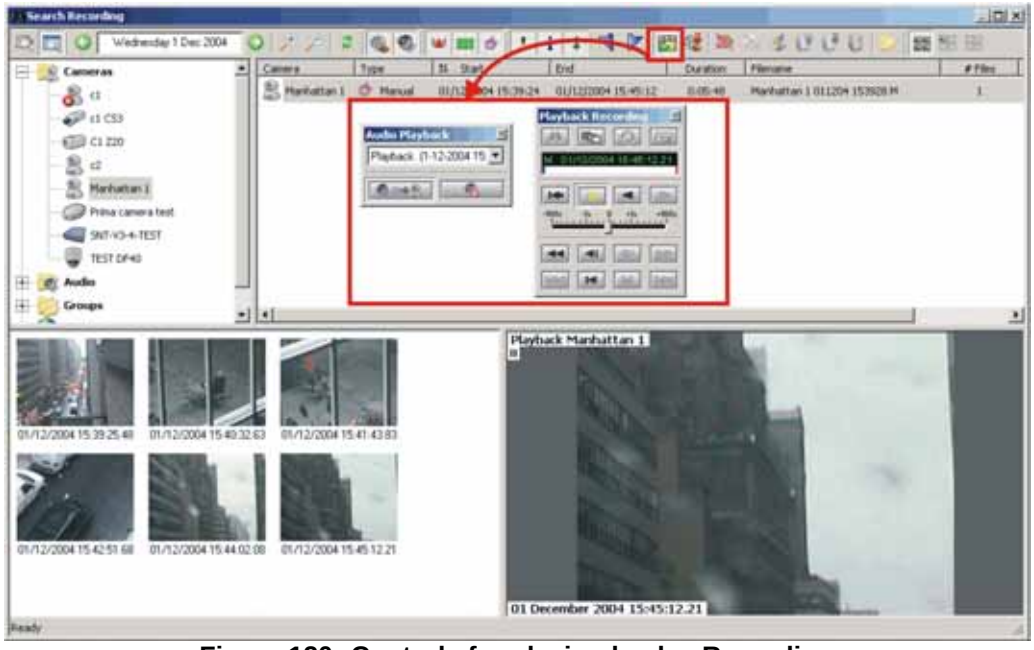


Figure 120 Controls for playing back a Recording

The Playback Controls

The controls available for controlling playback of a recording are shown in Figure 121. For a full description of how to use these controls, see the following sections:

- The Timeline on page 75
- Cue, Play, Pause & ReverseShuttle on page 75
- Fast Forward, Reverse on page 76
- Previous/Next Recording on page 76
- Timelapse Mode Versus Normal Mode on page 76
- Exporting to an AVI File on page 77.

RealShot Manager can play back the audio associated with a recording if it is available, see ‘Searching for Recordings’ on page 64. The creation of audio files requires correct associations to be set up between and audio device and a camera at the time of recording. To hear the audio from an audio device associated with a camera when monitoring ‘live’, see ‘Monitoring Audio’ on page 79.

Figure 121 Playback Recording Controls Toolbar

Use the playback controls to view the file. If you wish to highlight part of the file, use the Mark In and Mark Out buttons to set a start and end point of interest.

The Timeline

The timeline area displays the date and time at which the image was captured. It also displays a single letter code to indicate if the file was the result of an alarm, a scheduled event or a manual recording. The ‘A’ in Figure 122 indicates that this file was recorded as the result of an alarm.

Figure 122 Timeline

You can drag the red line to move through the video quickly but it may be hard to spot a particular event as the scroll movement is not as smooth as using other controls such as ‘Slow Forward’.

Notice how the time in this display changes as you move the red line. The last number in this time field will occasionally ‘jump’ due to missing frames if the capture frame rate was lower than 25 fps.

Cue, Play, Pause & Reverse

Ensure that you have selected the video file you want to view using the search facilities; see ‘Searching for Recordings’ on page 64.

Figure 123 Cue and Play Controls

1) Cue the file to the beginning.
2) Pause playback
3) Reverse play at x1.
4) Forward play at x1.

You can also select the cue point within the video file by clicking on any picture stamp in the storyboard, see 0 on page 69. Use the cue and play controls to control playback of the file from this point.

Shuttle

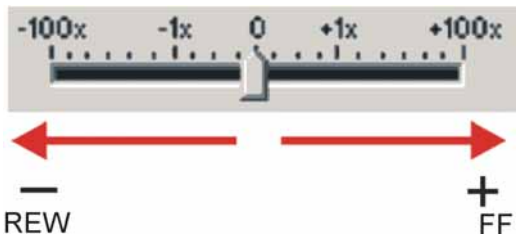


Figure 124 Shuttle Control

To navigate quickly through the video file you have opened, left click and hold on the shuttle control and drag it.

Moving the shuttle control to the left or right accelerates the REW/FF further up to a maximum of 1000%.

Fast Forward, Reverse

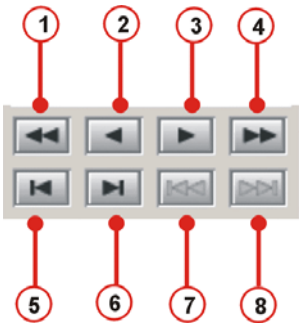


Figure 125 Non Playspeed Control

Buttons 1-6 allow you to control playback of the video file at speeds other than the play speed.

1) 'Rewind' (x-5 play speed)
2) 'Slow Reverse' (x-0.2 play speed)
3) 'Slow Forward' (x0.2 play speed)
4) 'Fast Forward' (x5 play speed)
5) 'Frame Reverse' (moves one frame back)
6) 'Frame Advance' (moves one frame forward).

Buttons 7 and 8 allow you to navigate between files recorded by the same camera.

7) 'Previous Recording'
8) 'Next Recording'

See 'Previous/Next Recording' on page 76 for an example.

Previous/Next Recording

Following a search that returns more than one recording, it is possible to use the playback toolbar to move forwards and backwards opening files from the list of recordings using the Previous Recording and Next Recording toolbar buttons:

Figure 126 Navigating Recordings

Timelapse Mode Versus Normal Mode

Timelapse mode is toggled on/off by using on the 'Playback Recording' Toolbar.

The purpose of the Timelapse mode is to make the playback of the images in a file smooth and easy to follow. This allows you to check a file for a particular event more easily.

Timelapse mode imposes a fixed frame-rate on the replayed images. If the images were recorded at a low frame-rate, e.g. 1 frame every three seconds then the Timelapse mode replay frame-rate will be higher and so easier to see.

Tip: To see Timelapse mode obviously in action, make a recording with a very low frame-rate (e.g. Interval = 5000 ms or 0.2 fps), i.e. ensure that the recording lasts at least 15-30 minutes .

Play the file back with Normal play and you will see very little activity. Next, play the file back in Timelapse mode. The images should play back very smoothly and it will be easy to check the content.

Select View > Date/Time in the monitor from the right-click pop-up menu to see the actual time of recording for a playback.

In 'Normal mode' the fixed frame-rate is set to 10 images per second. This number is chosen, so that the human eye can easily track each image. If a higher frame-rate were chosen, e.g. 25 images per second then the eye cannot easily distinguish each individual frame.

Worked Example:
As an example, if you have recorded a file at 1 image every 3 seconds and then you play the file back using Normal Play you will see the image at 30x the normal speed. If you replay with Slow Forward, you will see 2 images per second, i.e. 6x normal speed. Fast-Forward is 5x Normal play speed, so in this case, 50 images per second and thus 150x the capture speed. For other speeds, the shuttle slider can again be used. Timelapse mode with its fixed 10 images per second will give the smoothest and easiest playback to follow.

Exporting to an AVI File

To export a recorded file to the 'AVI' format, use the following procedure:

1) Select the 'Export to AVI File' icon from the 'Search Recordings' toolbar.
2) Set the image parameters for the AVI file to be created.
3) Click on Settings... to modify the codec setup
4) Select OK to save the codec settings. The actual settings displayed will depend on the codec used and may appear rather different to those shown in Figure 127.
5) Use Browse... to select the output file.
6) Select Save to confirm the output file.
7) Select the 'Show all available codecs' check-box to provide your widest choice of codecs.
8) Select Yes in the warning dialog to confirm the codec request.
9) Select Export to start the conversion.
10) Watch the progress bar to monitor the conversion.
11) Select Close when the conversion has completed.

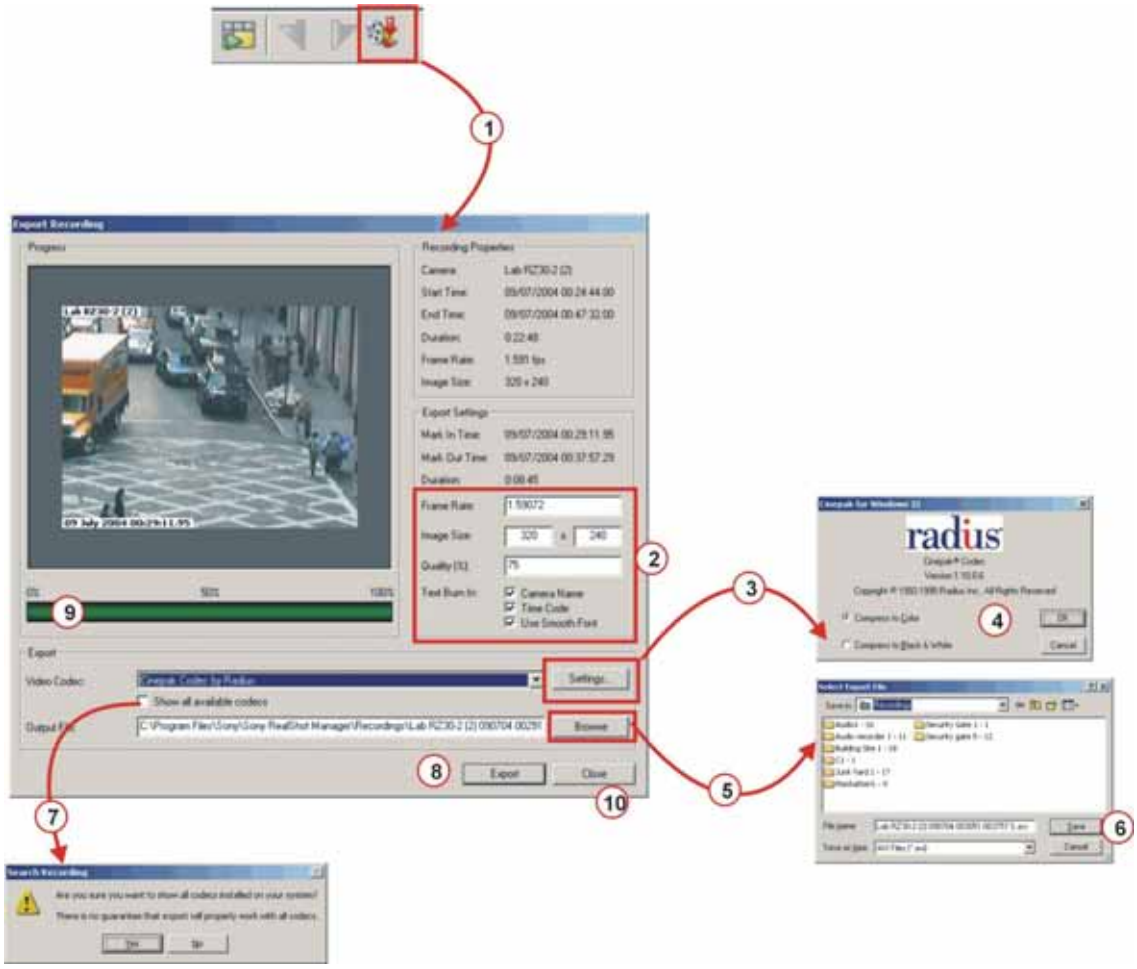


Figure 127 Exporting to an AVI File

Deleting Comments

You can remove comments using the ‘Search Recording’ window toolbar. Select a comment from the list available and then .

Monitoring Audio

The audio toolbar allows you to control the monitoring of the audio. The audio toolbar controls are as follows

1) The ‘Link Audio to Camera’ button allows you to make a link between an audio device and the camera selected in a monitor window. When this button is disabled, the drop down list allows you to select the source of the audio you wish to monitor from the list of available audio sources.
2) The ‘Toggle Audio’ mutes the audio, when enabled, regardless of whether there is an active audio link.

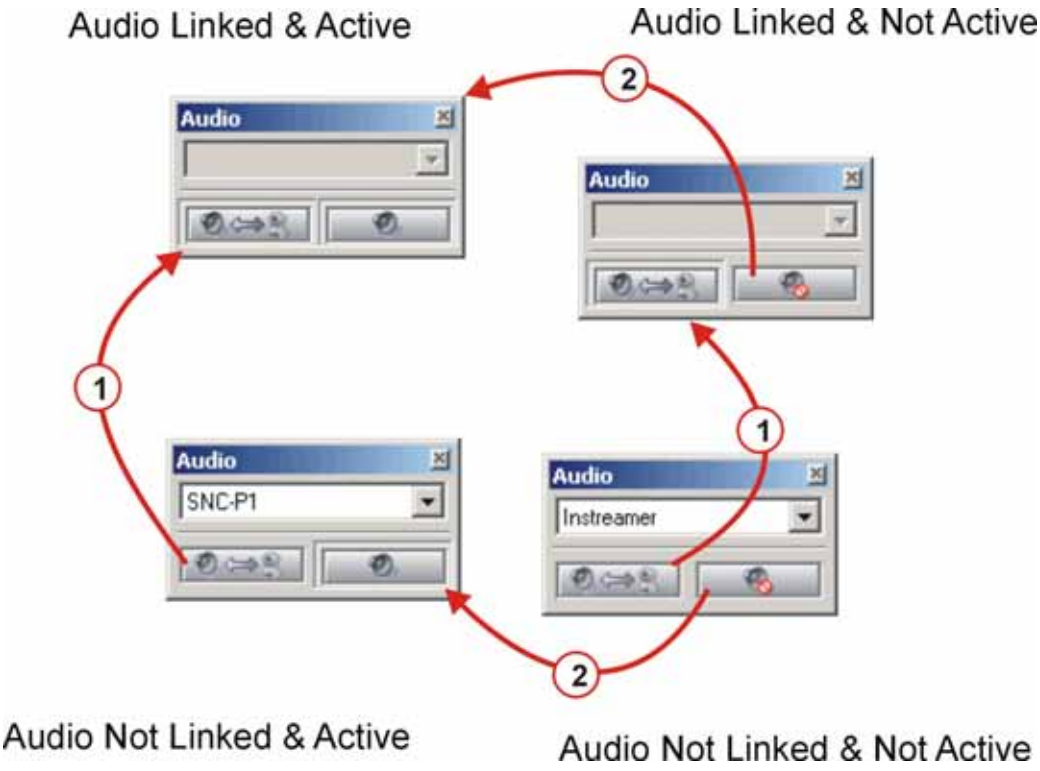


Figure 128 Audio Toolbar Controls

When the camera/audio linking button is depressed, only audio sources that have been associated with a camera can be monitored. This association is created in the Setup manager, see ‘Managing Audio Devices’ on page 147. To monitor the audio, an audio decoder must be installed. An audio decoder is available to be installed from the installation disc if required, but not installed by default. If you are unsure about this, consult your administrator.

Monitoring Alarms

The Alarm Monitoring icon on the main toolbar allows you to monitor alarm inputs either within the main application window or from a separate alarm window:

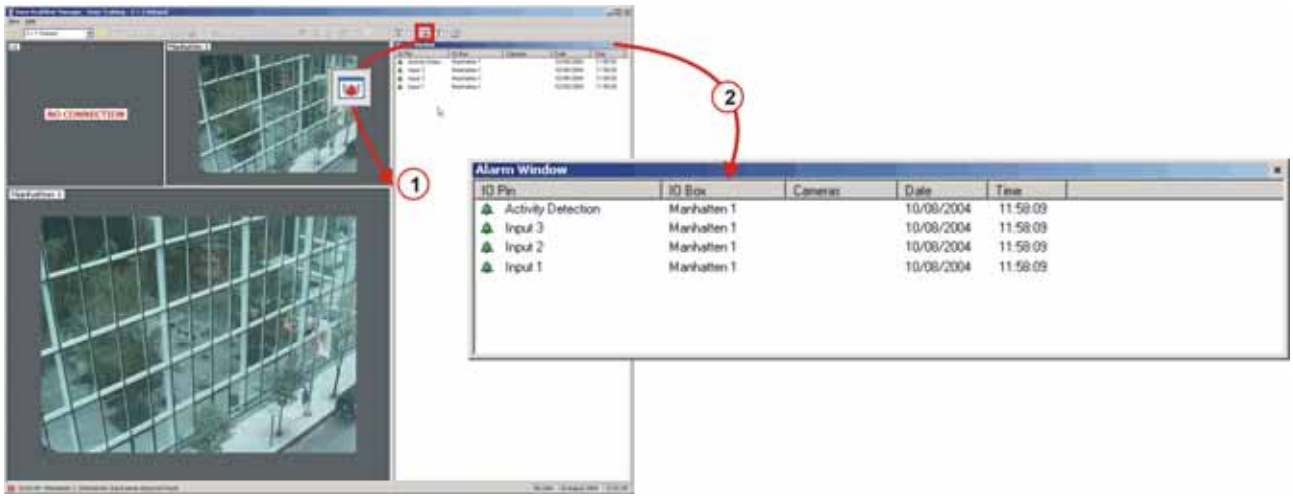


Figure 129 The Alarm Monitoring Window

1) Open the alarm window by selecting the Alarm Window icon from the main toolbar.
2) To undock the alarm window as part of the main window, drag it by the title bar away from the edge of the main window and it will become detached to form a separate window. To dock it again, reverse the procedure.

Alarms are configured through the Setup Manager, see ‘Managing I/O Boxes’ on page 141 and the General Settings window, see ‘Alarm Settings’ on page 95.

Administrator Guide

Configuring RealShot Manager

Types of Configuration

Cameras can be shared between different RealShot Manager PC's that are connected to each other via an Ethernet network. This sharing functionality is known as ‘Multi PC’ and can be used to establish complex configurations, for example:

- Server-Client
- Remote Monitoring
- Combinations of Server-Client and Remote Monitoring

Server – Client

The user monitors cameras and sets up schedules from the RealShot Manager the client PC. Any video recorded manually or as a result of a scheduled recording is typically stored on the server PC (although it may be stored in the Client PC if a valid storage location has been defined and mapped on the Client).

Client and Server can coexist on the same PC or a separate server PC can be installed with no GUI client application, see Figure 130. This configuration is useful if the video recorded by the cameras needs to be accessible from more than one place. For example, different security offices are responsible for surveillance at different times during the week.

Figure 130 Server-Client Multi-PC Configuration

Remote Monitoring

An operator can monitor cameras and view previous recordings at either the Remote Monitoring PC or the Local Recording and Monitoring PC. See Figure 131. This configuration is useful if multiple sites are monitored from a central location during off-peak hours. For example if a local council security department is responsible for security at all leisure facilities in a town during the night.

Complex Multiple-PC Configurations

Combinations of Server-Client relationships and Remote Monitoring configurations can be used to design a complex and flexible security solution. The administrative tools described in this guide support the setup and modification of your RealShot Manager solution so that it continues to support your needs even if they change throughout the life of your organisation.

Figure 131 Remote Monitoring Multi-PC Configuration

Scaling/Tuning a System

When designing or modifying a RealShot Manager monitoring system, there are many possible configurations. The process of scaling/tuning the system is that of deciding how to distribute the required cameras, set up the network infrastructure and how to connect the servers and the client PCs to achieve optimal monitoring, recording and playback. See Figure 132.

The video from the cameras is stored either on PC disks or, more commonly, on specialised Network Attached Storage devices. These are not PCs but are units with large hard disks that can be used for storing data.

The network bandwidth at the Network Attached Storage must be sufficient for streaming all the video from the attached cameras. The network can be sub-divided to distribute cameras and storage so that video can be streamed without reducing the resolution/quality/frequency of the images beyond acceptable levels.

Use of the alarm recording and monitoring facilities of RealShot Manager can also help to optimise the use of network bandwidth, giving additional clarity and smoothness of movement to images when it is really needed.

Each of the main factors affecting network performance is described below:

1) Network Bandwidth. See the table below:

Circuit Type	**Bandwidth**
Analogue (telephone circuit via modem)	28.8Kbps
ISDN	64-128Kbps
ADSL	128Kbps-15Mbs (2Mb practically in the U.K)
10BaseT	10Mbps
100BaseT	100Mbps
ATM	155Mbps
Gigabit	1000Mbps

Table 2: Circuit Details

CCTV applications typically share network applications with other office applications and must therefore not be configured to use all the available bandwidth of the network. In general, networks only achieve 50% of their nominal speed when heavily used and any system should be designed to take this into account.

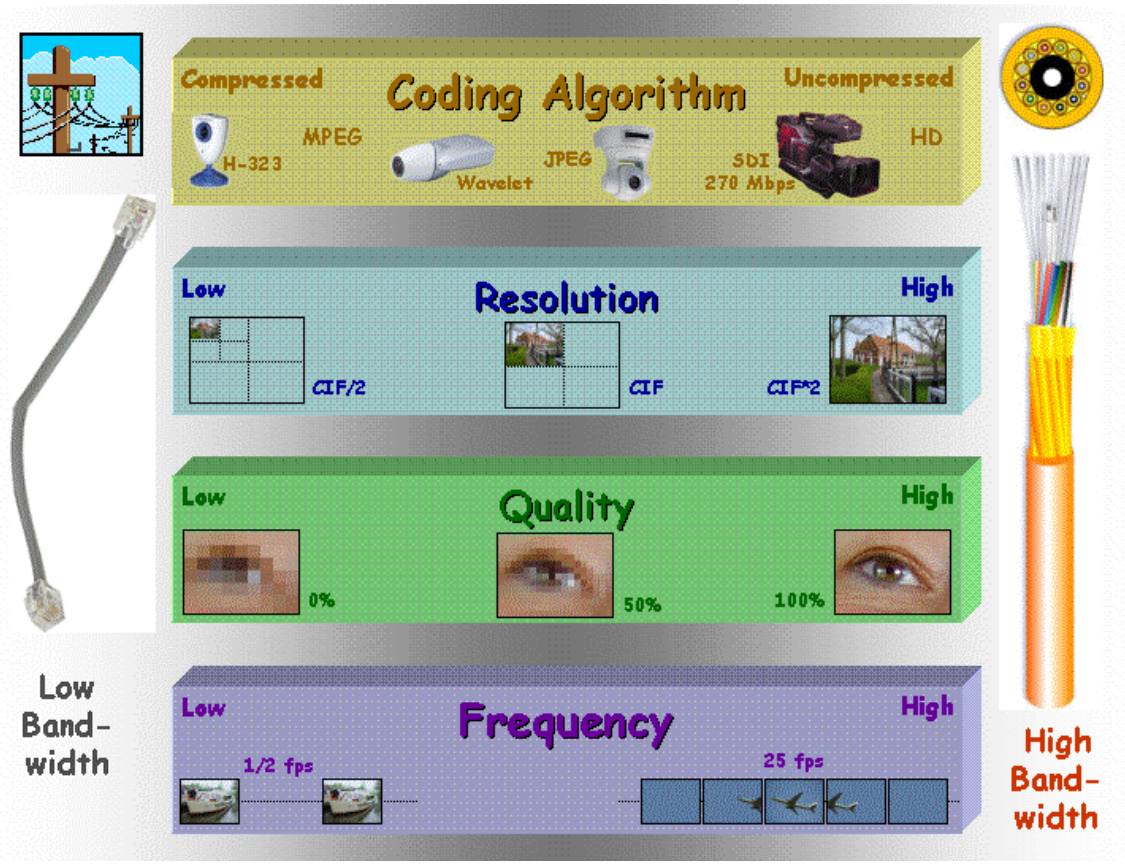


Figure 132 Scaling/Tuning Considerations

2) 'Coding Algorithm' – The coding algorithm selected for video describes how the video data is compressed. Compressing the video allows transfer of images at a lower bit rate than 'baseband' or uncompressed video. The compression format makes a lot of difference to the perceived quality of the video when decoded. The table below gives a summary of the commonly used compression formats and their advantages and disadvantages:

Format	Description	Advantages	Disadvantages
MPEG	Motion Pictures Experts Group – produced a range of video standards than can combine single frame encoding with motion prediction.	Accurate code and decode with few artefacts (picture errors).	Codec circuitry usually expensive in hardware.
JPEG	Joint Pictures Experts Group – produced a range of standards, initially for single frame still images but enhanced for motion video.	Achieves good compression for images without fast movement.	Compression rate not as efficient as MPEG for images containing fast-moving objects.
Wavelet	A proprietary standard for compressing video signals. Similar to some parts of the MPEG standard.	Gives better results than JPEG compression for typical CCTV images.	Not an open standard.

Table 3: Formats

3) ‘Resolution’ – This is defined by the number of pixels in a single image ‘Common Intermediate Format’ or CIF is usually used as a baseline:

Resolution:	QCIF	CIF	4CIF
Pixels:	180 * 144 (CIF/2)	360 * 288	750 * 576 (CIF*2)
Size of JPEG compressed image at ‘50% quality.	3KB	10 KB	40KB

Table 4: Resolutions

4) ‘Quality’ – The parameters used during encoding for JPEG and MPEG compression have a large impact on the subjective ‘quality’ of the images produced. The size of compressed images can be reduced at the cost of clarity. Quality is expressed as a percentage and the highest achievable quality for any image using optimised encoding parameters is designated as ‘100%’.

As an example, for JPEG compressed files at CIF resolution, the size of an image file varies according to the following table:

‘Quality’ (%)	10	50	100
File Size (KB)	4	10	50

Table 5: Quality of Picture

5) Frequency – The higher the frequency of images in a sequence of video, the smoother the movement. Bandwidth can be saved if the frequency in frames per second (fps) is reduced.

Installing RealShot Manager Server

Linux Server

The INSTALL procedure for RSMServer for linux version 3.0 broadly follows the steps described in ‘Installation’ on page 85. This procedure is only an example as RSMServer for linux can be used with many types of linux installation. These notes provide general guidance on how RSMServer can be installed. The details may vary slightly from system to system, but most linux servers will be capable of running RSMServer.

Platform

The RSMServer zip file contains two executables called "RSMServer" and "RSMServer.static". RSMServer is a dynamically linked executable that depends on the following libraries:

- libpthread.so.0
- libstdc++.so.3
- libm.so.6
- libgcc_s.so.1
- libc.so.6
- /lib/ld-linux.so.2

If you cannot install or obtain these libraries for your linux installation then you can use RSMServer.static. This is a statically linked executable that includes all the libraries it needs within the executable file.

Upgrading

To upgrade an existing installation of RSMServer replace the executable file RSMServer" or "RSMServer.static" with the newer version.

Please check the "README" and "INSTALL" files for notes for any extra steps that may be required for particular versions of RSMServer.

When upgrading to release 2.0.1.1 from an earlier release, please delete the file "storagelocation.db" from the RSMServer working directory. It will be created again the next time RSMServer is run.

Installation

The following steps should be performed to install RSMServer:

1) Make a working directory for RSMServer. RSMServer will look here for its license file and save databases of devices and storage locations here.Typical locations might be /usr/local/RSMServer or /opt/RSMServer.
2) Unzip the RSMServer zip file to a temporary directory.
3) Copy the RSMServer (or RSMServer.static) executable file to a suitable directory. This could be the RSMServer working directory or it could be a system binary directory such as /usr/local/bin or /opt/bin.
4) After obtaining a RSMServer license, copy the license file "License.lic" to the RSMServer working directory.
5) Prepare and share directory for the storage location. This is where recordings will be stored.

Running RSMServer

RSMServer can be run as any user. Some considerations are

- The user account from which you are running RSMServer must have write permission to the RSMServer working directory and the storage location directory.
- It is usually best not to run programs as the "root" user unless absolutely necessary.

If required, RSMServer can be run as a specific user by explicitly changing its file ownership and setting the ‘setuid’ bit, or by using another package (such as "super") to execute it with the privileges of another user.

RSMServer should be run from the working directory. A typical interactive usage might be as follows:

- cd /usr/local/RSMServer
- ./RSMServer -n server1 -p 8080 -sl /recordings

There are more command line examples in the README file that accompanies the installation software.

Stopping RSMServer

If RSMServer is run interactively, then press control-C to interrupt it and exit cleanly. If RSMServer is running in the background, send it a TERM signal by using the kill command, for example

- kill pid (where pid is the id of the RSMServer process)

or

- killall RSMServer

Setting up a shared Storage Location

In order for a RSM client on a MS windows machine to browse and playback the recordings made by RSMServer the directory used by the storage location must be shared on the network. The name of the share should be the same as the name of the storage location. The RSMServer storage location is named "Default".

On linux this can be achieved by using the samba package to make the directory available to MS windows machines on the network. The samba configuration file "smb.conf" should be edited as follows.

1) In the global section add the line security = share
2) Add a share definition as follows, using the same directory that the storage location uses for the "path" setting:

```
[Default]
  comment    = RSMServer storage location
  path       = /recordings
  writable   = yes
  browseable = yes
  guest ok   = yes
  guest only = yes
```

It may be necessary to restart samba after making these changes. This is achieved by running a command such as /etc/init.d/samba restart.

Starting RSMServer automatically when Linux starts

Linux installations typically use a system of scripts (often in /etc/init.d) and symbolic links (often in /etc/rc?.d, where ? is a number or letter) to decide which applications to start or stop when the system boots up, shuts down or changes state (runlevel).

The example script "rsmserver.init" shows how RSMServer can be integrated into the boot up system. To use the script you should perform the following steps:

1) Edit the script so that the five variable settings reflect your RSMServer installation.
2) Make sure the script refers to RSMServer or RSMServer.static as appropriate for your installation.
3) Copy the script to /etc/init.d
4) Make appropriate symbolic links for starting and stopping RSMServer for the system runlevels that you are using:

   For example

   /etc/rc2.d/S99rsmserver.init -> ../init.d/rsmserver.init

   (The details may vary for different linux systems.)

Logging RSMServer Messages

RSMServer generates output messages on its standard output and standard error output. These are normally displayed on the console from which RSMServer was started.

If RSMServer is started automatically then it may be useful to redirect these messages to a file. Many linux systems include a utility called "logger" that allows application output to be sent to the linux logging system ("syslog").

If required, RSMServer output can be directed into a separate log file by configuring /etc/syslog.conf.

Usually this will also mean that the log file is automatically monitored by the system to make sure it does not get too large. This behaviour can be modified by configuring ‘logrotate’.

Configuring the Server Remotely from a Client

You can configure the devices and device/storage mappings for the server remotely using the RSM windows client interface, see ‘Remote PC Setup’ on page 98.

Interfacing to an Archive

Windows

In a Windows (Win32) environment the archive interface module is

automatically loaded during the installation of RSM Standard or RSM Server.However, you will still need to configure the ftp service, see ‘FTP Setup’ on page 89.

Linux

The Archive interface module ArchivingORB for Linux can be installed on most Linux platforms. It is not designed for a particular version or distribution of Linux.

These installation instructions provide general guidance on how to install the RSM ArchivingORB module. The details may vary from system to system, but most Linux systems should be capable of running ArchivingORB.

Dependencies

The linuxArchivingORB.zip file contains two executables called "ArchivingORB" and "ArchivingORB.static".

ArchivingORB is a dynamically linked executable that depends on the following libraries:

- libpthread.so.0
- libstdc++.so.3
- libm.so.6
- libgcc_s.so.1
- libc.so.6
- /lib/ld-linux.so.2

These are standard system libraries that are available on most Linux installations. If these libraries are not present and you cannot install or obtain them libraries for your Linux installation, then you can use ArchivingORB.static. This is a statically linked executable that includes all the libraries requied within the executable file.

Upgrading

To upgrade an existing installation of RSM Archiving ORB to a newer version, simply replace the executable file "ArchivingORB" or "ArchivingORB.static" with the newer version.

However, please check the "README" and "INSTALL" files for specific notes on any extra steps that may be required for that particular version of ArchivingORB.

Installation

The following steps should be performed to install ArchivingORB.

1) Make a working directory for ArchivingORB. ArchivingORB will look in this directory for its configuration file. Typical locations might be /usr/local/ArchivingORB or /opt/ArchivingORB.
2) Unzip the linuxArchivingORB.zip file to a temporary directory.
3) Copy the ArchivingORB (or ArchivingORB.static) executable file to a suitable directory. This can be either the ArchivingORB working directory or it a system binary directory such as /usr/local/bin or /opt/bin.
4) Copy the "ORB_Config.xml.example" template configuration file to the working directory. Modify the file to reflect your configuration and rename it to ORB_Config.xml.
5) Set up the FTP service, see ‘FTP Setup’ on page 89 for details.

Running ArchivingORB

Manual Start

ArchivingORB can be run from any user account. You should, however, consider the following:

- The user account must have write access to the ArchivingORB working directory and the archiving sub-directory within the RSMServer working directory
- It is usually best not to run programs as the "root" user unless absolutely necessary
- If required, ArchivingORB can be run as a specific user by explicitly changing its file ownership and setting the ‘setuid’ bit, or by using another package (such as "super") to execute it with the privileges from another user account.
- ArchivingORB should be run from the working directory and has the following command line arguments:
    - ArchivingORB [-v[v][v]] [-c <ConfigFile>]
    - [-f <ActionFolder> <ProcessingFolder> <ProcessedFolder> <HistoryFolder>]
    - [-ph <PetaServe_Hostname>] [-pf <PetaServe_Folder>]
    - [-hn <Local_Ftp_Hostname>] [-hu <Local_Ftp_Username>]
    - [-hp <Local_Ftp_Password>] [-hf <Local_Ftp_Folder>]
    -
    - Default configuration file: ORB_Config.xml
- A typical interactive usage would be as follows:
    - cd /usr/local/ArchivingORB
    - ./ArchivingORB -c ORB_Config.xml

Note: For further command line examples, please see the README file that accompanies your RSMServer application software.

Starting ArchivingORB automatically when Linux starts

Many Linux installations use a system of scripts (often in /etc/init.d) and symbolic links (often in '/etc/rc?'.d, where ? is a number or letter) to set which applications to start or stop when the system boots up, shuts down or changes state (runlevel).

The example script "rsmorb.init" shows how ArchivingORB can be integrated into the boot up system. To use the script you should perform the following steps:

- Edit the script so that the five variable settings reflect your ArchivingORB installation.
- Make sure the script refers to ArchivingORB or ArchivingORB.static as appropriate for your installation.
- Copy the script to /etc/init.d
- Make appropriate symbolic links for starting and stopping ArchivingOR for the system runlevels that you are using.

  For example

  /etc/rc2.d/S99rsmorb.init -> ../init.d/rsmorb.init[1]

[1] These details may vary for different Linux systems.

Stopping ArchivingORB

If ArchivingORB is run interactively, then press control-C to interrupt it and exit cleanly.

If ArchivingORB is running in the background, send it a TERM signal by using the kill command, for example

kill pid (where pid is the id of the ArchivingORB process)

or

killall ArchivingORB

Logging ArchivingORB Messages

ArchivingORB generates output messages on its standard output and standard error output. These are normally displayed on the console from which ArchivingORB was started.

If ArchivingORB is started automatically then it may be useful to redirect these messages to a file. Many Linux systems include a utility called "logger" that allows application output to be sent to the Linux logging system ("syslog"). If required, the output from ArchivingORB can be directed into a separate log file by configuring /etc/syslog.conf.

Usually this will also mean that the log file is automatically monitored by the system to make sure it does not get too large. The monitoring and log management can be modified by configuring logrotate.

FTP Setup

Windows

For Windows 2000/XP, IIS (Internet Information Service) provides the FTP service. Please install IIS before preceding any further. (IIS is installed from Add/Remove Programs in Control Panel)

The setup steps are basically the same as for Linux, see ‘Linux’ on page 90. The main difference is that the Path Separator changes from '/' to '\'.

- Set up the ftp root to point to the Default storage location: "C:\Program\Files\Sony\Sony RealShot Manager\Recordings
- If you have more than one storage location, please add the remaining recording directories to a virtual directory under ftp root in the IIS configuration - see Figure 133.

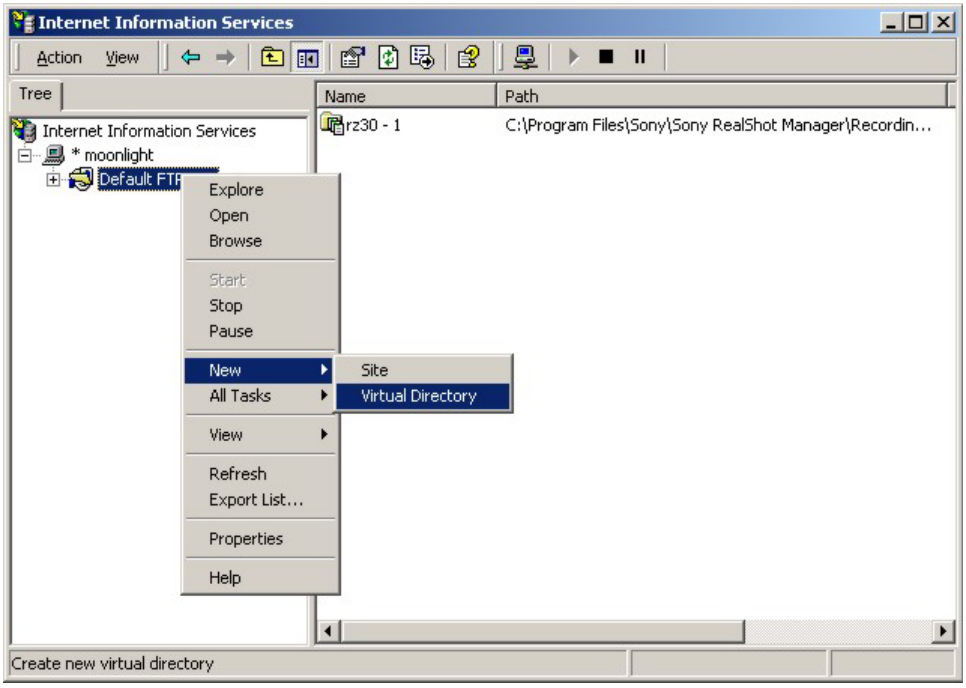


Figure 133 Creating a Virtual Directory

- For example, if you have 2 storage locations: C:\RSMSL1 and D:\SL2RSM. With recordings stored under ‘C:\RSMSL1\Door - 1\’, ‘C:\RSMSL1\Window – 5’ and ‘D:\SL2RSM\2ndFloor – 6’.
- After creating the virtual directory in IIS, PetaServe will be able to retrieve recordings from the following locations:
    - ftp://<ip_address>/Door - 1/
    - ftp://<ip_address>/Window - 5/
    - ftp://<ip_address>/2ndFloor - 6/

Linux

In order to allow the Sony PetaServe/HNF application to migrate files to a tape library or restore files from the tape library, it's necessary to set up a FTP service on the server hosting the RSMServer/ArchivingORB.

There are many FTP Daemons available for Linux. So the configuration may vary for different FTP software. The following common points are important:

- If you have only one storage location on one machine, the simplest way to complete the setup is make a new user account in the system and set it's home directory to the root of storage location.
- If you have more than one storage location, you could set the ftp user's home directory to the main storage location, and map those directories on other storage locations to the ftp user's home directory. In the following example:-

- A user has 2 storage locations: /mnt/rsm_sl1/ and /mnt2/rsm_sl2, with some recordings stored in each of the directories
    - /mnt/rsm_sl1/Door - 1/
    - /mnt/rsm_sl1/Window - 5/
    - /mnt2/rsm_sl2/2ndFloor - 6/
- Set the ftp user's home directory to /mnt/rsm_sl1/ by using the command "chfn -h /mnt/rsm_sl1/ <user>"; and the map the directories using commands of the following format:
    - "2ndFloor - 6" "ln -s /mnt2/rsm_sl2/2ndFloor\ -\ 6 /mnt/rsm_sl1/2ndFloor\ -\ 6".
- In this way, PetaServe can retrieve recordings from:
    - ftp://<ip_address>/Door - 1/
    - ftp://<ip_address>/Window - 5/
    - ftp://<ip_address>/2ndFloor - 6/

General Settings

Select the general settings icon on the Main toolbar to open the General Settings tabulated window.

The tab labelled ‘External Control’ is only visible if enabled in the ‘Modules’ tab. See External Module Integration on page 99. Each of the tabs is described in more detail in the following sections:

User Interface Settings (General Tab)

The General tab allows you to modify the setup for the User Interface. Note that the tabs can vary from those shown in Figure 134 depending on settings in the ‘Modules’ tab.

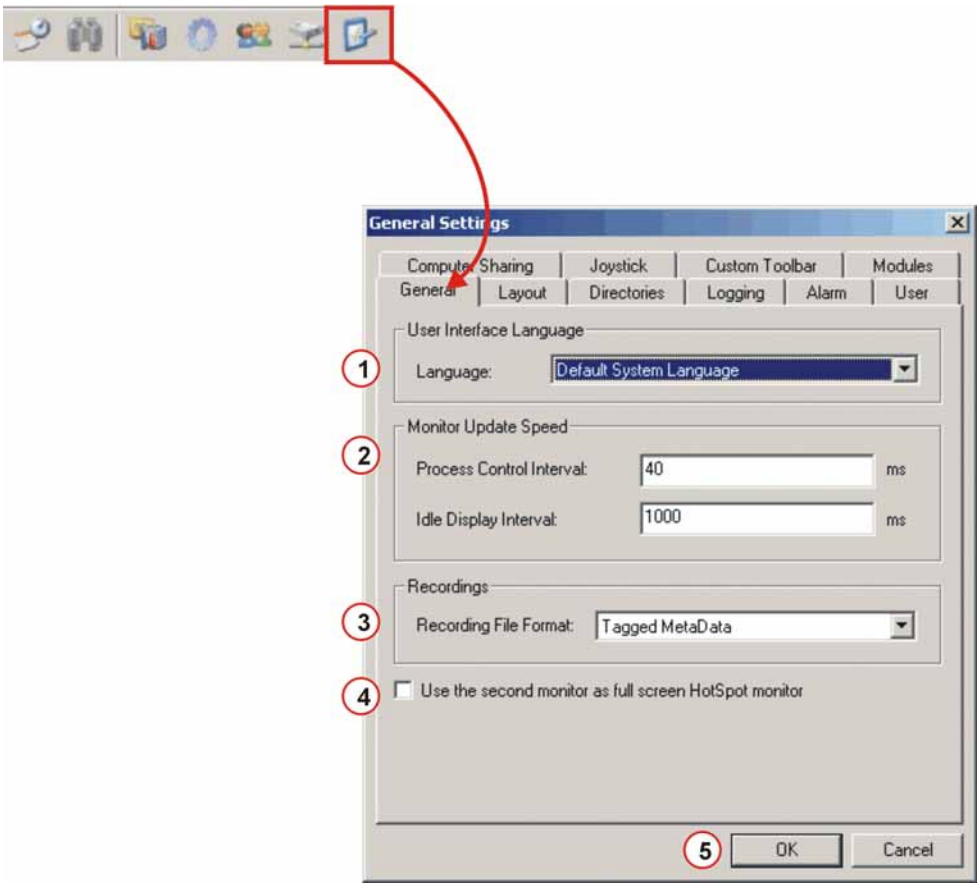


Figure 134 General Settings

Open the General Settings dialog by selecting the toolbar icon shown in Figure 134.

1) User Interface Language:

Select the language to use for RealShot Manager dialogs, tool tips, message boxes and drop-down menus in the field.

2) Monitor Update Speed:

Set the image update characteristics in the area:

- The 'Process Control Interval' determines how frequently the camera monitor windows should be updated with new images.
- The 'Idle Display Interval' determines how often the camera monitor windows should be updated when the main monitor window is not selected as the active window.

3) Recordings

Select a recording format for files from the options 'Tagged MetaData' and 'Compatibility Mode'. The use of Dynamic Masks limits the functionality available through RealShot Manager if 'Compatibility Mode' is selected. No recordings can be made whilst using the dynamic masks. To record whilst using dynamic masks, use the 'Tagged MetaData' option.

4) Use the second monitor as full-screen Hot-Spot monitor

If you are running in dual screen mode (set up through your windows display settings) then you can send the hot-spot monitor image to full-screen on the second monitor. Enable the check-box to do this.

5) Select OK to save your changes.

Modifying and Sharing Directories

The RealShot Manager application uses four default folders for storing certain types of data created or used by the application. An example of the default path to these folders is c:\Program Files\Sony\Sony RealShot Manager\.

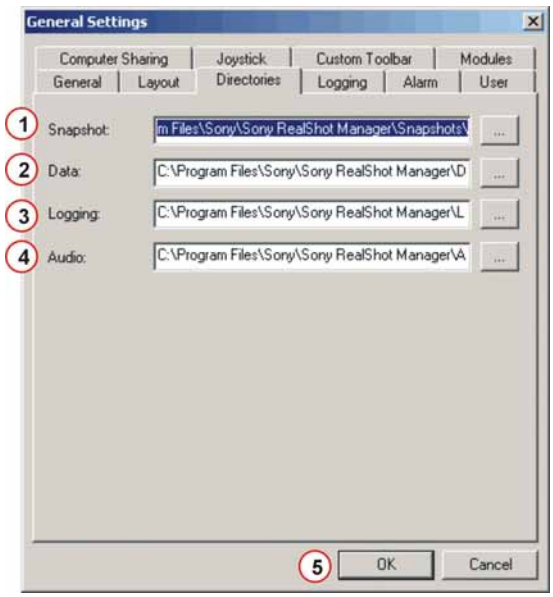


Figure 135 Directory Settings

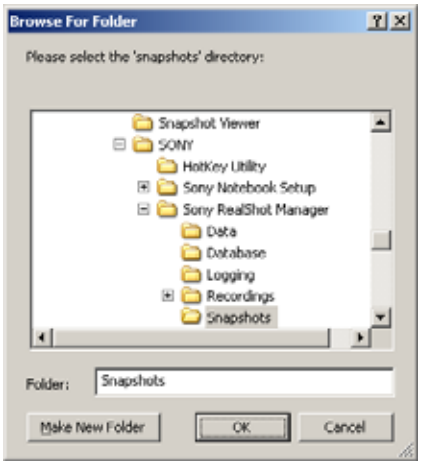


Figure 136 Browse Directory Dialog

Enter or browse for the path where the following information will be stored:

1) 'Snapshot' – single frame images (snapshots) captured from cameras are stored in this folder.
2) 'Data' – image files used in the background of a monitor window layout are stored in this folder.

Note that if you change the Directory in the 'Data:' path then any images stored in the old 'Data' directory that are used in your layouts will no longer be shown in the layout. Please reselect any affected images in the Layout Editor, see 'Adding a Foreground Image to the Layout' on page 177.

3) 'Logging' – the directory in which error log files are stored.
4) 'Audio' – audio files that are to be streamed out to an external audio device such as the SNC-P1 camera are stored here.
5) Select OK to save your changes to these settings or Cancel to exit without saving.

When you select '...' to browse for a directory, the dialog shown in Figure 136 is displayed. You can navigate to the directory required by using the explorer-style tree or you can create a new folder at any level by using the 'Make New Folder' button.

Logging and Alarm Notification

The Logging tab allows you to modify the settings associated with error and alarm notification. See Figure 137.

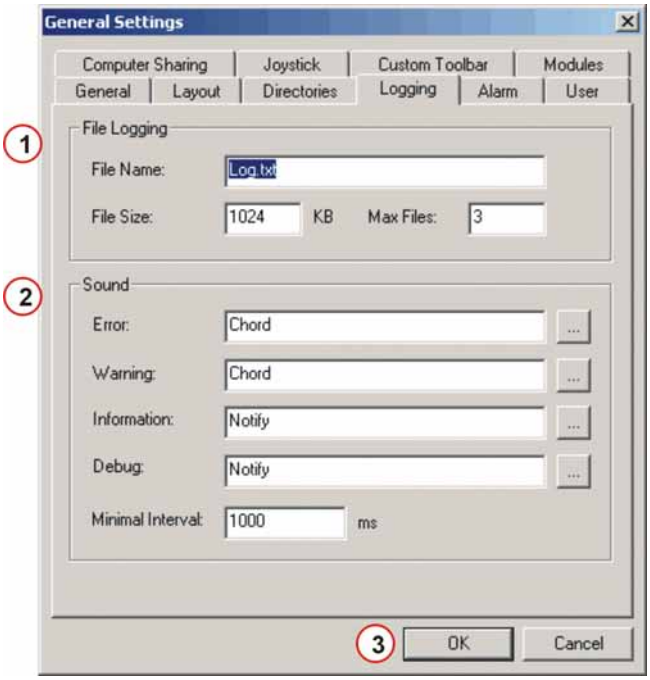


Figure 137 Logging Settings

1) 'File Logging':

- 'File Name': Provide a file name for logging of error and system status information.
- 'File Size': Set the maximum size in KB of the log file before it is closed and a new one opened.
- 'Maximum Files': Enter the maximum number of log files to be retained on the system. When this maximum is reached the oldest is deleted.

2) 'Sound'

- Enter or browse for the path of sound files (*.wav files) that will be used to notify the user when messages are generated. The Sounds for the following categories of message can be set separately:
    - o Error
    - o Warning
    - o Info
    - o Debug

  Increasing Importance

- The 'Minimum Interval' is the time delay in milliseconds between message sounds being played in the event that multiple events are logged at the same time.

3) Select OK to save your changes or Cancel to exit without saving them.

Alarm Settings

The Alarm tab allows you to modify how alarms are reported. See Figure 138.

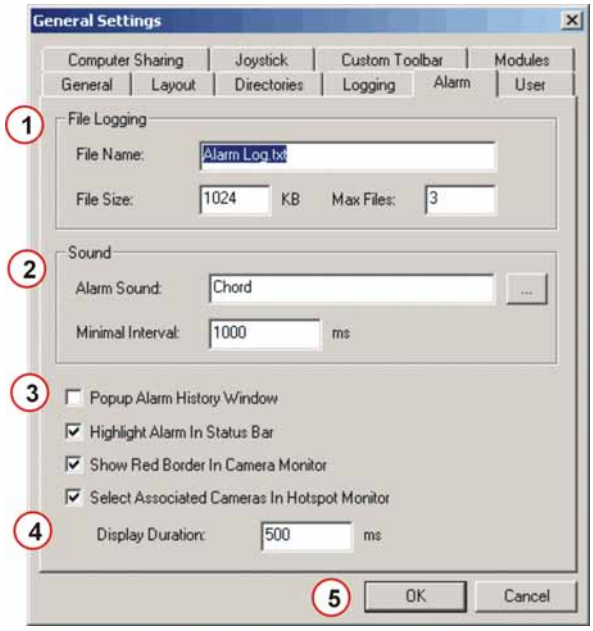


Figure 138 Alarm Settings

1) File Logging:

- 'File Name' – Provide a file name for the logging of alarm messages.
- 'File Size' – This is the maximum size in KB of the alarm message log file before it is closed and a new one is opened.
- 'Max Files' - Enter the maximum number of alarm message log files to be retained on the system. When this maximum is reached the oldest is deleted.

2) Sound:

- 'Alarm Sound'- Browse to or enter the name of a .wav file for the sound you wish to accompany an alarm.
- 'Minimal Interval'- This is the delay between alarm sounds being played in the event that multiple alarms are generated at the same time.

3) These check boxes control the actions that result from an alarm:

- 'Popup Alarm History Window'- With this enabled, a pop-up window containing a history of recent alarms is displayed whenever an alarm is generated.
- 'Highlight Alarm In Status Bar'- With this enabled, the alarm is highlighted and represented by an icon in the Status Bar.
- 'Show Red Border In Camera Monitor'- With this enabled, the monitor window of the camera with which the alarm is associated is edged with a red border.
- 'Select Associated Camera in Hotspot Monitor'- With this enabled, the hot spot monitor is automatically switched to show the camera with which the alarm is associated. If this check-box is enabled then the 'Display Duration:' can be set.

4) 'Display Duration:' - The minimum display duration for an alarm is specified here in milliseconds. If multiple alarms follow in quick succession, the changes to the display resulting from the check box selections could be missed. This setting ensures that each one is held for sufficient time to be noticed.

5) Select OK to save your changes and Cancel to exit without saving them.

User Log Settings

User events such as logging in and out are recorded in a dedicated log file. The User tab of the General Settings allows you to set the parameters for logging user events, see Figure 139.

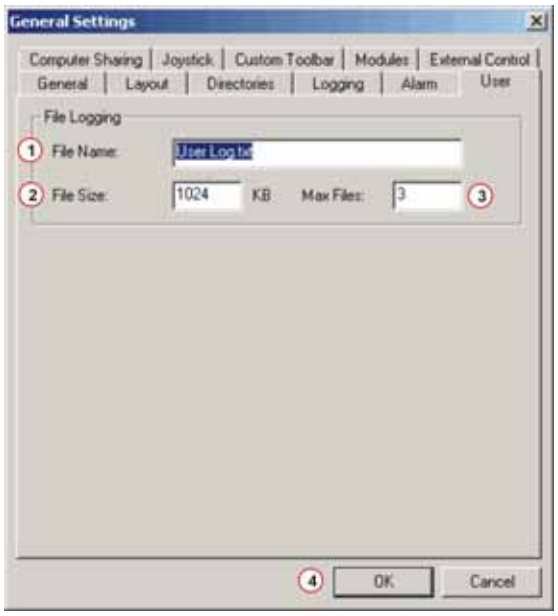


Figure 139 User Logging Settings

1) 'File Name': Provide a file name for the logging of error and system status information on users.
2) 'File Size': Set the maximum size in KB of the log file before it is closed and a new one opened.
3) 'Maximum Files': Enter the maximum number of log files to be retained on the system. When this maximum is reached, the oldest is deleted.

Joystick Settings

The 'Joystick' tab of the General Settings allows you to configure a Joystick device to control the PTZ functions of a camera.

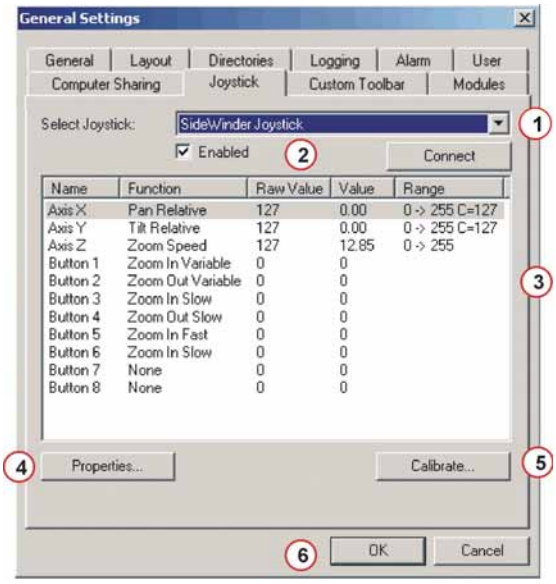


Figure 140 Joystick Settings

1) Select a Joystick type from the drop-down list.
2) Enable the connection to the Joystick by checking the box and select Connect to establish communications
3) The current setup for the joystick should appear in the function list.
4) Select 'Properties…' to open a model specific dialog with details of the Joystick features.
5) Select 'Calibrate…' to run a sequence of calibration tests to ensure that the range of movement of the joystick covers the whole range of camera control.
6) Select OK to save the joystick settings or Cancel to exit without saving the setup.

In the example shown in Figure 141, The Z-Axis controls of the joystick control the zoom in/out speed and the buttons are mapped to set the zoom speed to one of 3 presets: Slow, Fast or Variable. With the Variable speed zoom, the speed of the zoom depends on the position of the joystick handle. Push forwards to increase the zoom speed and pull backwards to decrease the zoom speed.

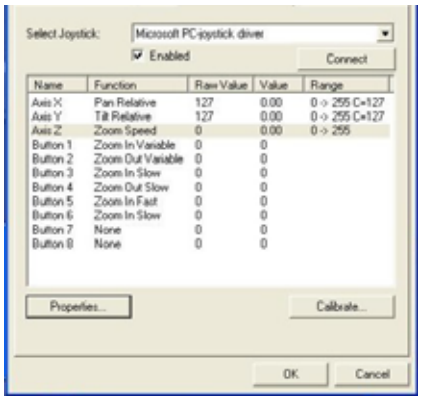


Figure 141 Joystick Example

Remote Access and Sharing

Each RealShot Manager PC can manage any camera that is connected to an accessible part of the network. However, to avoid duplication of recordings and reduce network traffic, it is possible to nominate individual RealShot Manager PCs as responsible for a specific group of cameras. Other PCs can then remotely access the live images from these cameras and prior recordings. This is particularly useful if a local operation is unmanned at night, monitoring and access to recordings can be performed off-site at a central location. The settings illustrated in Figure 142 enable sharing of resources managed by the host PC and access to resources already shared on other PCs.

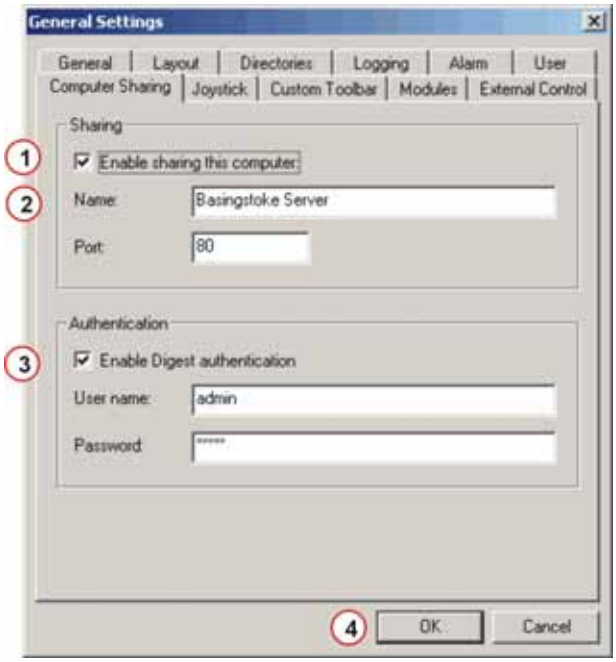


Figure 142 Remote Access Settings

1) 'Sharing' – The 'Enable sharing on this computer:' check box controls the visibility of this host PC and its managed devices to RealShot Manager clients on the network[1]. The 'Enable sharing this computer' check-box allows other RealShot Manager PCs to use this host as a link in a camera management chain. Clear this check-box to prevent sharing of any connected camera to either the host PC or any of the PCs registered on the host PC.
2) Enter the host name into the 'Name:' box, this name will be displayed when the client has successfully connected to the remote camera and the camera list as shown in the Setup Manager is retrieved for the first time by the client RealShot Manager computer. Enter the TCP/IP port for communication into the 'Port:' box. The default value for this port number is '80'.
3) To enable this security feature: Select the 'Enable Digest authentication' check-box[1] and enter the username and password required for secure access at the HAPI level to the resources managed by this PC. Sessions from Client PCs must supply these login details to access the resources.
4) Select OK to save your changes or Cancel to exit without saving them.

The ‘Remote PCs’ list appears in the Setup Manager under the ‘Remote Servers’ group. For details of how to manage remote server access through the Setup Manager, see ‘Remote Cameras‘ on page 118.

Remote PC Setup

The ‘Remote PCs’ list appears in the Setup Manager under the ‘Remote Servers’ group. See ‘Remote Cameras‘ on page 118 for details how to add a new Remote Server. Click on the Remote Server entry in the list to open the details shown in Figure 143.

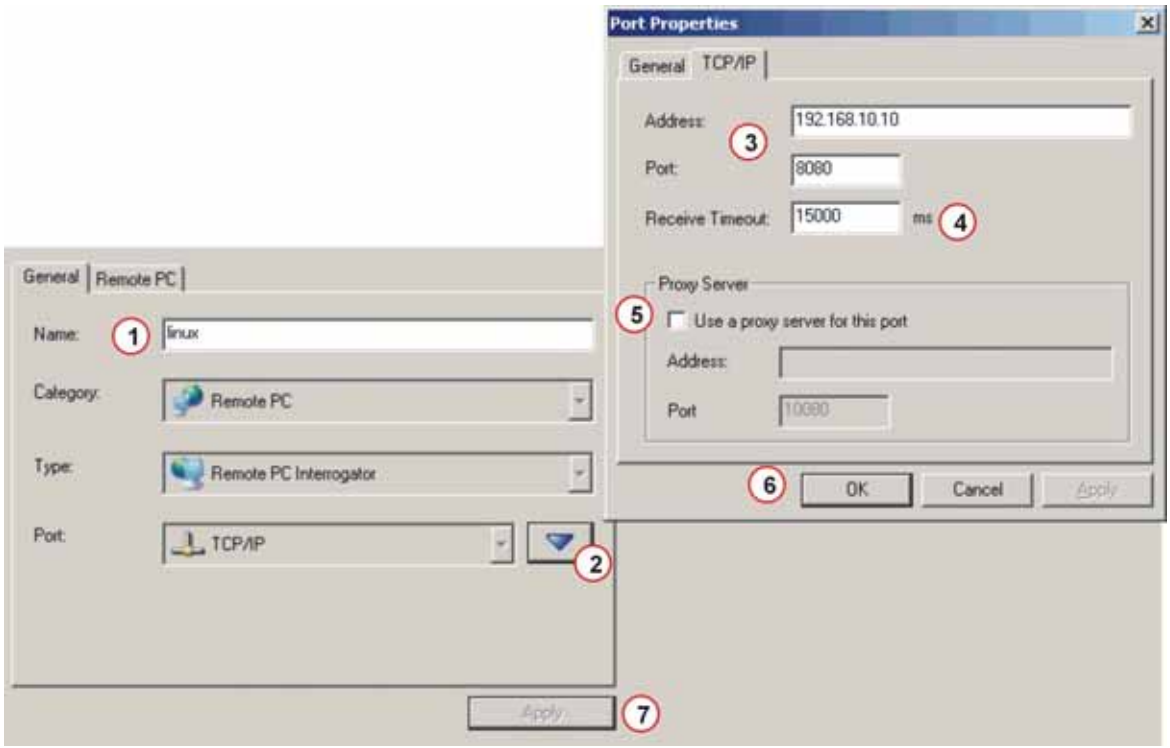


Figure 143 Initial Remote PC Settings on Host PC

1) Enter a name in the ‘Name:’ field of the ‘General’ tab, this may be changed after the first successful connection with the Remote PC. After a connection is established, the share name entered at the Remote PC into the ‘General Settings’, ‘Remote & Sharing’ tab will be read and used to update this field.
2) Select the icon to open the Port Properties window.
3) Enter an IP Address and TCP/IP port number for connection via the network.
4) Enter a Receive timeout in ms to wait for a response from the Remote PC.
5) Enter the details of a Proxy server is one is to be used for the network communication. Consult your Network Manager for details.
6) Select OK to save your settings or Cancel to exit without saving.
7) Select Apply to complete registration of the new Remote PC.

When the communication with the Remote Server has been established you can make changes to the server configuration (depending on network permissions).

Add cameras and other devices to the Remote server sub-tree in the same way as for adding local devices to the main tree.

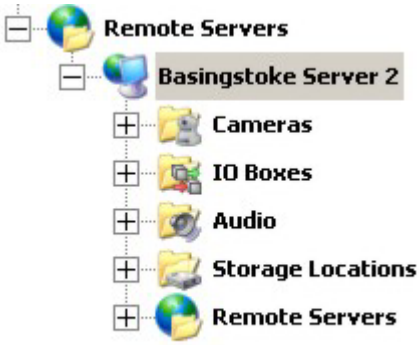


Figure 144 Remote Server Entries

Adding an Individual Mapped Camera

A mapped camera is served by another PC on the network and is referenced using its server's IP address

To map, view or use remote cameras from the remote client PC - Add the host PCs for the shared cameras to the 'Remote PCs' list of the Setup Manager, see 'Remote Cameras' on page 118.

External Module Integration

There are currently two options for external module integration:

- A Retail module for customer tracking
- An External Camera Control module for sending data to network devices.

In a retail environment, the RealShot Manager application can be used with an external retail module to analyse customer behaviour. The External Control module allows configurations where cameras managed by one PC can be remotely controlled from another PC on the same network.

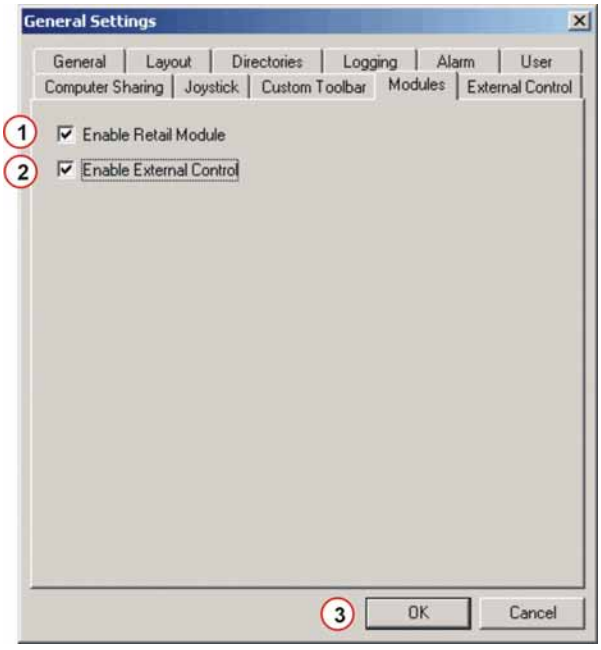


Figure 145 Modules

1) 'Enable Retail Module' - Select the check box to enable communication with the retail module on this PC. This check-box is only available if a suitable retail software module has been installed on the PC.
2) 'Enable External Control' - Select the check box to activate the external control facilities of RealShot Manager. A new tab 'External Control' is added to the 'General Settings' dialog when this check-box is selected[1].
3) Select OK to save your changes or Cancel to exit without saving them.

[1] Note that the cameras and related control strings must be set up in the 'External Control' tab. See 'External Control' on page 100.

External Control

If External Control has been enabled. See Figure 145. Then you can send RS-232 control data to external devices by selecting any camera with a configured device for monitoring in the Monitor Window. Before adding control devices, ensure that the associated cameras have already been configured. See ‘Adding a Device’ on page 113.

As an example, External Control might be used for switching an audio mixer to hear audio from a particular camera. Configure the cameras and devices as follows:

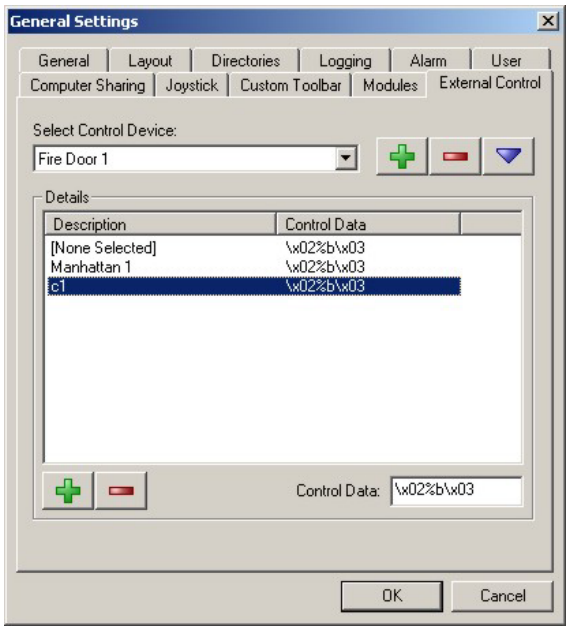


Figure 146 External Control

Select to add a new Control Device, see ‘Adding a Device for External Control’ on page 100.

The camera list displayed is the list of cameras configured to send control data to the selected device. Edit the camera list to contain the required cameras. See ‘

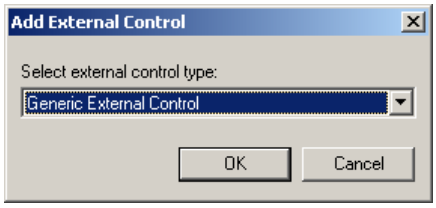
Editing a Device for External Control’ on page 101.

Specify the Control Data to be sent when the image from the selected camera is selected in the monitor window.

- Select delete a Camera from the list.
- Select to open an existing device to edit the control details.

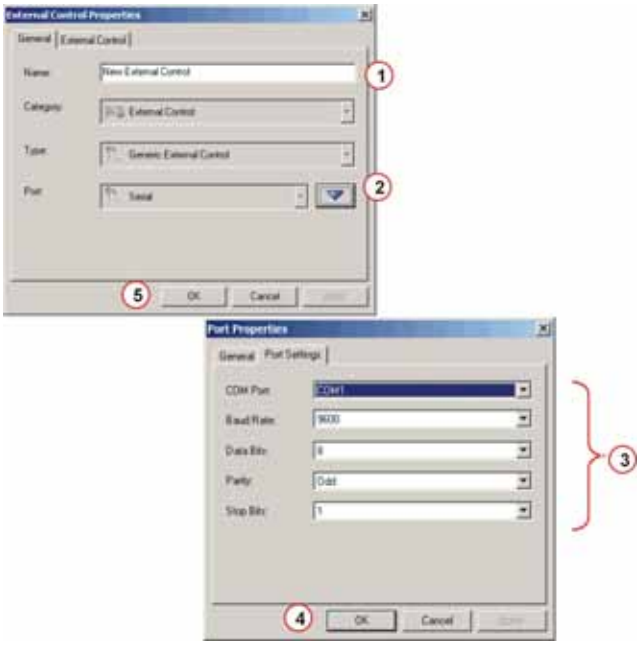
Adding a Device for External Control

For each external device to be controlled, specify the camera and the control string to be sent as follows:



Select the external control type from the drop-down box. Currently only ‘Generic External Control’ is supported.

Select OK.

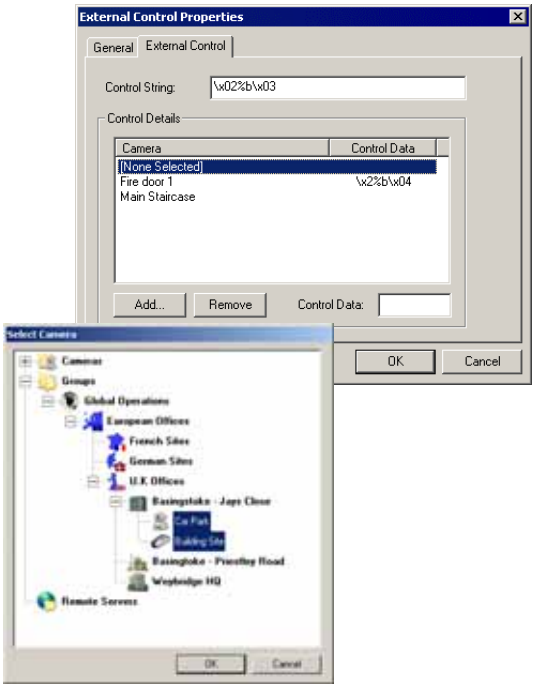


1) Enter the name of the device in the ‘Name’ field.
2) Select to open the ‘Port Properties’ dialog.
3) Select the COM port to be used for RS-232 communication with the device and the use the Baudrate, Data bits, Parity and Stop bits drop-down lists to specify the RS-232 settings required to control the device. See the setup or installation manual for the device to be controlled for details of the values required.
4) Select Apply then OK to save the port details or Cancel to exit without saving them.
5) Select Apply then OK to save the device details or Cancel to exit without saving them.

Figure 147 Adding an External Control Device

Editing a Device for External Control

Select an External Control device from the ‘Control Device:’ drop down list as shown in Figure 146 and then select to open the details of the control device for editing, the dialog displayed will be as shown in Figure 148.



1) Select the ‘External Control’ tab.
2) Select a Camera from the ‘Cameral’ list or use the Add... button to select one or more new cameras from the ‘Select Camera’ list. Select OK to close the ‘Select Camera’ list.
3) Enter the control data to be sent to the device in the ‘Control String:’ field. See the setup or installation manual associated with the device for details of the control data required.
4) Select OK to add the camera to the list or Cancel to exit without saving the details.

Note: The ‘External Control Properties’ dialog has two tabs, ‘General’ and ‘External Control’. The ‘General’ tab allows you to set the name and COM port details for control by the external device. See Figure 147.

Figure 148 External Control for Single Device

Layout Settings

You can cycle through a list of layouts in the monitor window. To create the list, select the ‘Layout’ tab from the General Settings, see Figure 149.

Use the icon to add layouts to the list, specifying the duration for which each one is displayed in milliseconds. To edit the duration for a listed layout, select the layout in the list and then open the details with the icon.

To remove a layout from the list use the icon. To change the display order, use the up ( ) and down ( )arrows.

To activate the auto change, select the ‘Toggle Auto Layout Change’ icon from the main toolbar, see ‘The Main Toolbar’ on page 26.

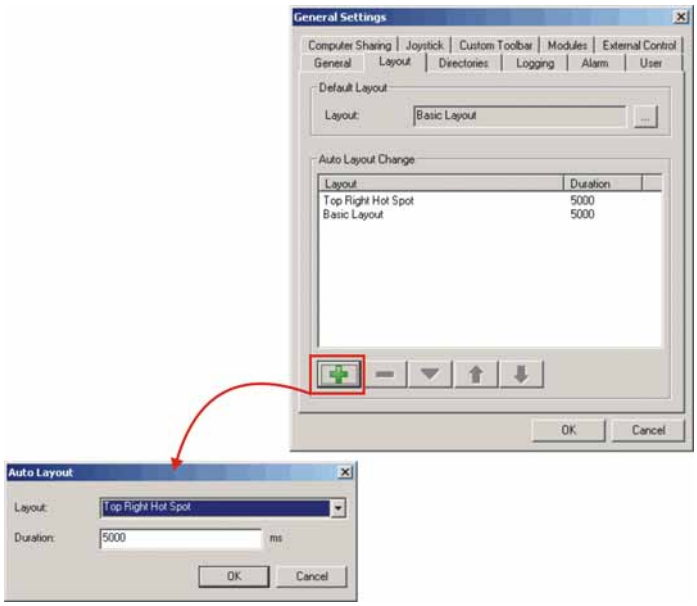


Figure 149 Building an Auto Change List of Layouts

External Application Integration

You can add a customised toolbar to the main window to include icons that start other applications external to RealShot Manager, in fact this is the mechanism used to interface with EZPlugger and the EMail notification module.

Select the ‘Custom Toolbar’ tab from the General Settings, see Figure 150.

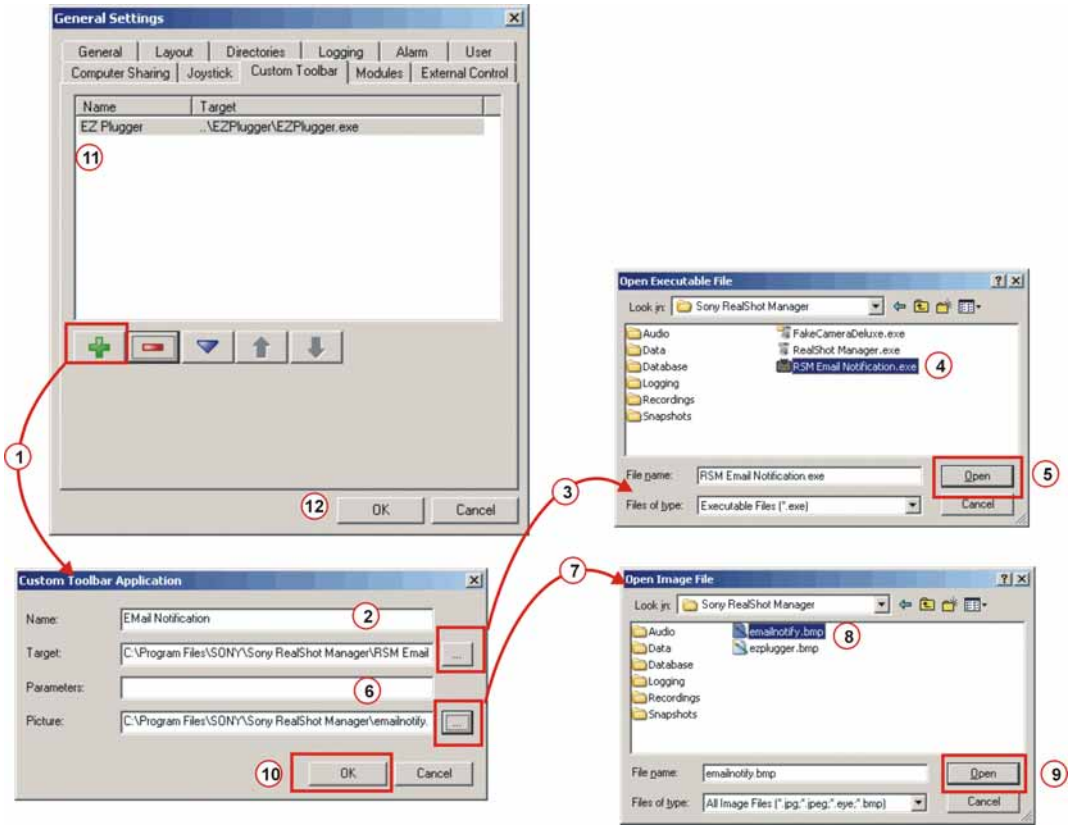


Figure 150 Building a Custom Toolbar

1) Use the icon to add an application to the list.
2) Specify the display name to be used for the application.
3) Browse to the target executable using the browse button or enter the executable path directly into the 'Target' field.
4) If browsing, select the executable and…
5) Select Open to confirm the selection of the executable.
6) Add any command line parameters to be supplied to the application on startup.
7) Supply the path and file name of an image or browse to an image file to be used as the application icon.
8) If browsing, select the image file and…
9) Click on Open to confirm the selection of the icon.
10) Select OK to confirm addition of this application to the list or Cancel to exit without saving.
11) Check that your newly added application appears in the list.
12) Select OK to confirm all changes to the application list or Cancel to exit without saving.

To edit the details for an existing target application, select the application name from the list and then open the details with the icon.

To remove a layout from the list use the icon. To change the display order, use the up ( ) and down ( )arrows.

To enable the custom toolbar, select the 'Toggle Custom Toolbar' icon from the main toolbar, see 'The Main Toolbar' on page 26.

An example of a customised toolbar containing only icons for EZPlugger and EMail notification is shown in Figure 151. The appearance of the icons in the toolbar may be different to this example.

Figure 151 Example Customised Toolbar

EZPlugger

When the EZPlugger icon is selected from the custom toolbar as shown in Figure 151, the current device configuration is exported as a .xml file so that it can be imported into EZPlugger.

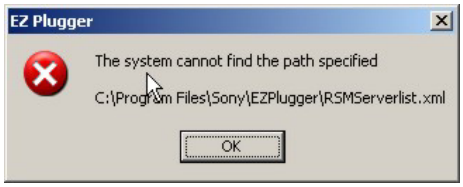


Figure 152 EZPlugger not configured

If EZPlugger is not installed correctly on the same PC, you may see the error message shown in Figure 152.

Note:

When installed correctly, the EZPlugger executable should be resident at the same level in the directory structure as the RealShot Manager executable e.g. if RealShot Manager.exe is to be found in the directory 'C:\Program Files\SONY\Sony RealShot Manager', then the EZPlugger executable should be installed in 'C:\Program Files\SONY\EZPlugger'.

Please see the sections entitled 'Configuration Device List' and 'Real Shot Manager Integration' in the IP Monitoring Configuration Tool (EZPlugger) User Guide (DC963501374) for further details.

Alarm Notification Integration

RealShot Manager can notify selected users of alarms generated. When RealShot Manager detects that an alarm has been triggered, this module sends out an e-mail with **the following information:**

- Type of alarm detected
- Camera/IOBox
- Input pin number/Activity Detection pin
- The camera image at the instant of the alarm[1].

[1]A current limitation of this module is that for about 10 seconds after it is started, no image is attached to generated e-mails.

For instructions on how to set up the routing of the e-mails to the correct user(s), please see the 'EMail Notification Module' User Guide.

User Accounts

To open the User Manager dialog click on the ‘User Manager’ icon on the main toolbar, see Figure 153.

If you do not create any user accounts then anybody can use RealShot Manager with full access to all functions of the application.

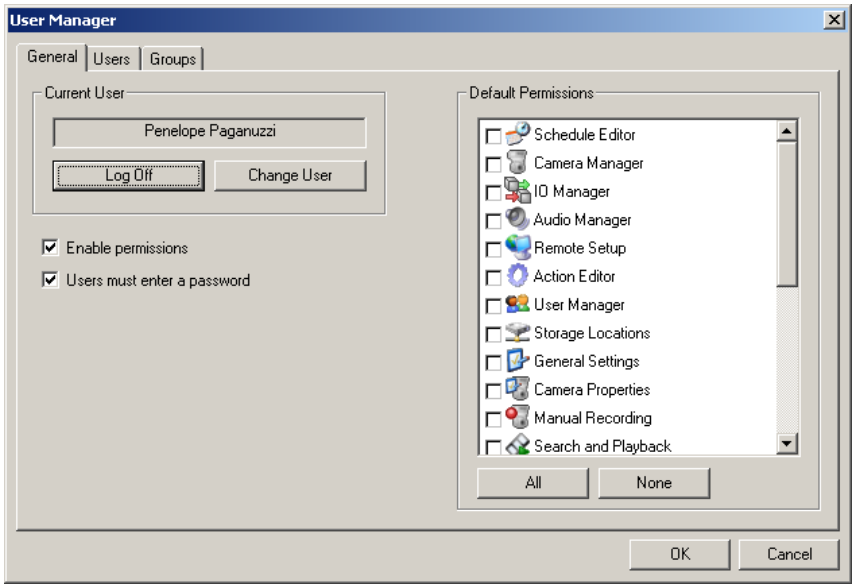


Figure 153 The User Manager

From the registration of the first user account, unregistered RealShot Manager users are restricted to a minimum set of functions. The access rights of registered users can be tailored to allow them access to functions required for their job roles. In order to gain their full access rights, each user is required to log in using their assigned user name and password.

If the ‘Enable permissions’ check-box is marked each user will have only the permissions set up through the user accounts and group accounts defined in the User Manager.

If the ‘Users must enter a password’ is checked then any user without a password will be prompted to enter one on first login.

For example an administrator would be granted access to all of the available functions of the application whereas a security guard would be restricted to those functions applicable to his/her job role.

Setting Permissions

Each user of RealShot Manager can be assigned permissions (or access rights) to use various components of the application. Individual access rights can be assigned to enabled User and/or Groups to use the following functionality:

Schedule Editor	Schedule editor to set up scheduled recordings.
Camera Manager	Camera manager dialog to add and remove cameras.
I/O Manager	I/O Manager to set up camera inputs for triggering scheduled recordings and camera outputs to trigger external sensors.
Audio Manager	The Audio Manager allows set up of audio devices for recording sound as well as video.
Remote Setup	Enables the user to add remote servers in the setup manager and monitor/manage cameras connected to the

	remote servers.
Action Editor	Rule Manager for setting up actions to be performed at changes to the inputs specified through the I/O Manager
User Manager	User manager to set up and modify user accounts.
General Settings	General Settings dialog.
Camera Properties	Camera properties dialog.
Manual Recording	Recorder toolbar.
Search and Playback	Player toolbar and the Search Recording toolbar.
Camera Pan & Tilt Control	Pan and Tilt toolbar.
Camera Pan & Tilt Presets	Preset toolbar.
Output Control	Output Control toolbar to trigger camera outputs.
Add Comments	Add Comments toolbar.
Layout Editor	Layout editor to create and edit monitor window layouts.
Logging Control	Logging dialog.
Exit Application	Determines whether or not the user can exit from the application.
Monitor Functions	Modification of settings associated with camera monitors in the main monitoring window.
Select Camera in Monitor	Use of the menu to change the camera being viewed in a camera monitor window.
External Control	Enables the user to configure and activate outputs to control external devices.
Custom Toolbar	Enables the user to access the custom toolbar.
Archiving	Enables the user to use the attached archiving system (if available) for archiving and retrieval of video/audio files.

The ‘User Manager’ allows permissions to be applied at three levels:

1) Default Permissions – applied when no users are logged in.
2) User Permissions – applied to individual users.
3) Group Permissions – applied to groups of users.

New users added to a group acquire, by default, the permissions of the user group(s). However, permissions assigned to an individual user take precedence over the group permissions, so users can have their permissions set differently to those of the user group(s) they belong to. If any specific user permissions are set then these override the group permissions completely rather than adding to them. For example, a

security supervisor may inherit the ‘guards’ group permissions but if he requires additional the permission to use the ‘I/O Manager’ to be added to his/her personal account then the ‘guards’ group permissions must be manually added to his personal account in addition to the ‘I/O Manager’ permission.

The users permissions list indicates which permissions apply to a user as follows:

☐ - Has no permission

☑ - Has permission

☑ - Group permissions apply

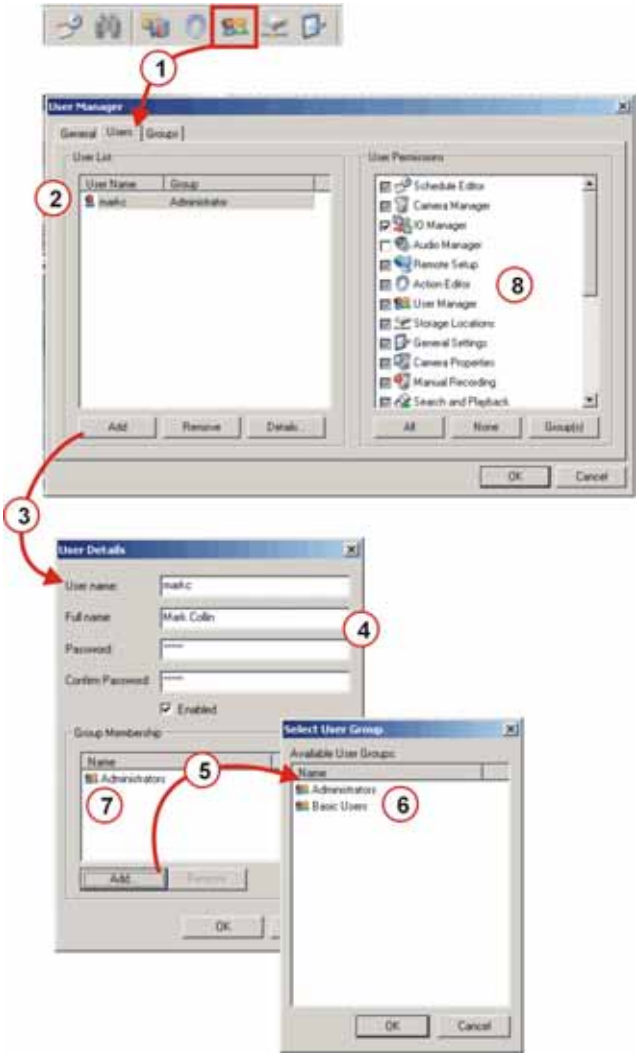
In the case where Group permissions apply, users who are members of multiple groups will inherit the combined permissions of all the groups.

Adding/Removing Users

To add or delete a user account. See Figure 154 and follow the steps below:

1) Click on the ‘User Manager’ icon on the main toolbar to open the User Manager window.
2) Select the ‘Users’ tab.
3) Select Add to create a new user; or Remove to remove a selected user account.
4) If adding a user, enter the details of the new user:

• ‘Full Name’	-	The full name of the user, used for information only.
• ‘User Name’	-	This is the name that the user must use to logon to RealShot Manager, it is not case sensitive.
• ‘Password’	-	The password the user must use to logon, it is case sensitive. The password must be confirmed by entering twice.
• ‘Enabled’	-	This check box enables or disables the user account. If the user account is disabled the user cannot log in.



Add group memberships as part of the process of adding a new user.The groups must already have been created. See Managing User Groups' on page 109.

1) To add the selected user to a user group, select Add... this will open the 'Select User Group' dialog.
2) Select one or more user groups and confirm using OK. You can select multiple groups by holding shift or control and clicking the left mouse button.
3) The user groups that the selected user is assigned to are listed.
4) The permissions for the user are updated to include the permissions inherited from the group.

Set the individual permissions for the user; refer to 'Setting Permissions' on page 105 for more details.

Figure 154 Adding and Modifying User Accounts

Modifying User Details

Select a user in the 'User Manager'. See Figure 154.To modify other user details, select the user from the users list and make the required changes.

Managing User Groups

User groups enable you to assign access rights to groups and then to assign users to those groups. This simplifies the task of setting permissions as they only need to be set once for a group and then users can be added to the group to obtain the permissions of the group.

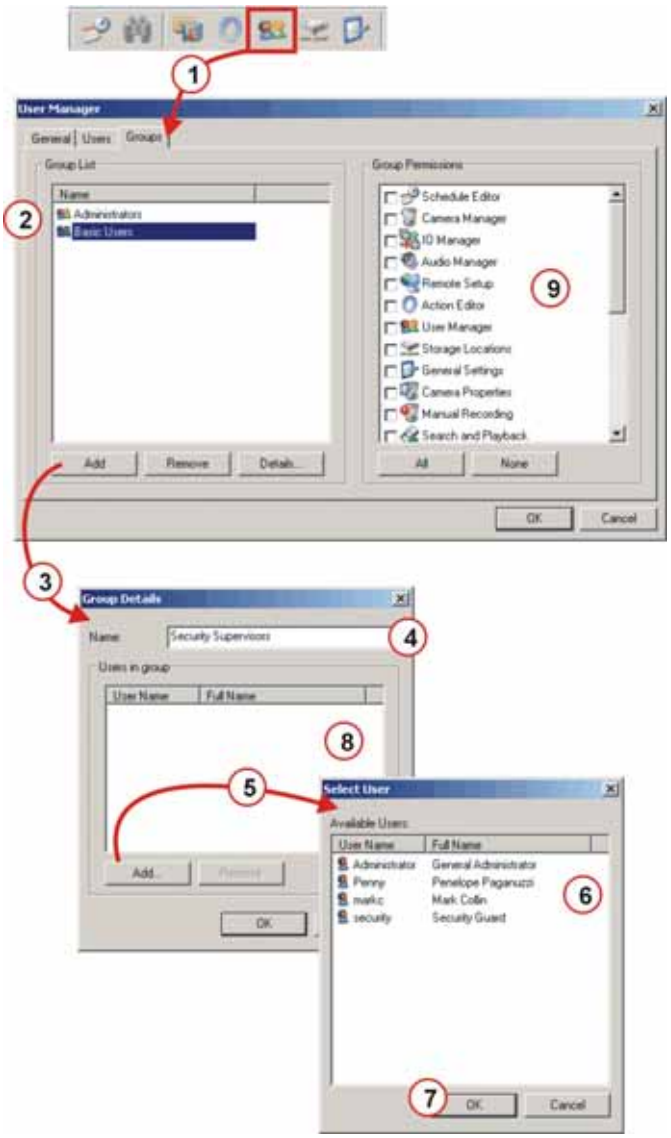


Figure 155 Adding a User Group

1) Select on the main toolbar to open the User Manager dialog.
2) Select the ‘Groups’ tab of the dialog.
3) Select Add to create a new group, see below. Select Remove to remove a selected group.
4) If adding a new group, enter a unique name for the group.
5) Select Add to open the ‘Select User’ dialog.
6) Select one or more users from the dialog. You can select multiple users by holding shift or control and clicking the left mouse button.
7) Confirm with OK.
8) The users that have been assigned to this user group are displayed in the ‘Users in group’ list.
9) Enable the Group Permissions check boxes to set the permissions for the group, refer to ‘Setting Permissions’ on page 105 for more details.

To modify group settings at any time double-click with the left mouse button on the group in the list, or select the group and click on Details..., then make the required changes as outlined in steps 4 and 8 above. Users can be deleted from the group with Remove if necessary.

Logging Off or Changing Accounts

The ‘User Manager’ dialog contains a ‘General Settings’ tab; the functions on this tab are described in Figure 156.

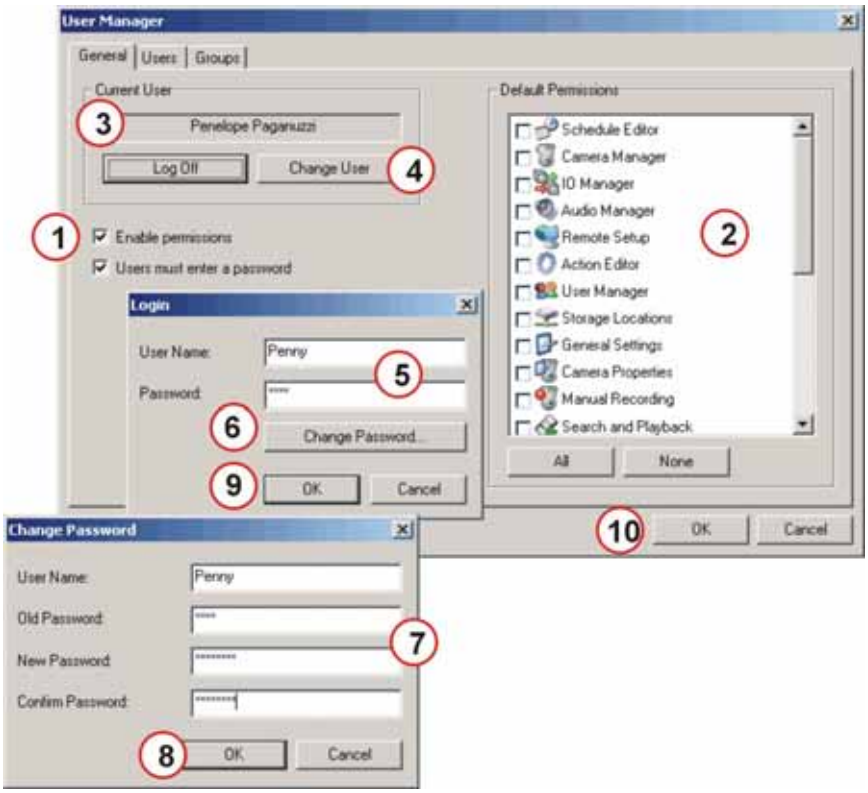


Figure 156 Changing Login Sessions

1) Click on the ‘Enable Permissions’ check box to enable or disable all permissions for the whole application. This overrides the individual permissions set for the user in the Users tab. Select the ‘Users must enter a password’ check-box to force users to apply password protection to the application.
2) Select your preferred default permissions that should apply when no users are logged in by marking the ‘Permissions’ check-boxes of the facilities to be available to all. These permissions would apply to anybody who uses RealShot Manager without logging in.
3) The full user name of the user who is currently logged in is displayed; you can also log off by selecting Log Off. This button is only active when a registered user is logged in.
4) To log in as another user, select Change User to open the normal logon dialog. Enter the user name and password of the account you wish to switch to. This feature is useful for administrators who are also users of the system in another role. Switching to an administrator account only when the additional functionality is actually required protects you from making mistakes.
5) Enter the details of the alternative account you wish to use.
6) You can modify the password for the account by selecting Change Password... from here.
7) Enter the old password once and the new password twice.
8) Select OK to save the new password.
9) Select OK to log in. The new user’s full name is shown in the ‘Current User’ box.
10) Select OK again to exit the User Manager.

Setup Manager

The Setup Manager allows you to register the details of the cameras and other devices that are to be used by the Sony RealShot Manager application. When the application is first launched after installation you must use the Setup Manager to register cameras, I/O boxes, audio boxes, device groups and remote servers as required.

To open the Setup Manager, select the ‘Setup Manager’ icon from the main toolbar, see Figure 157.

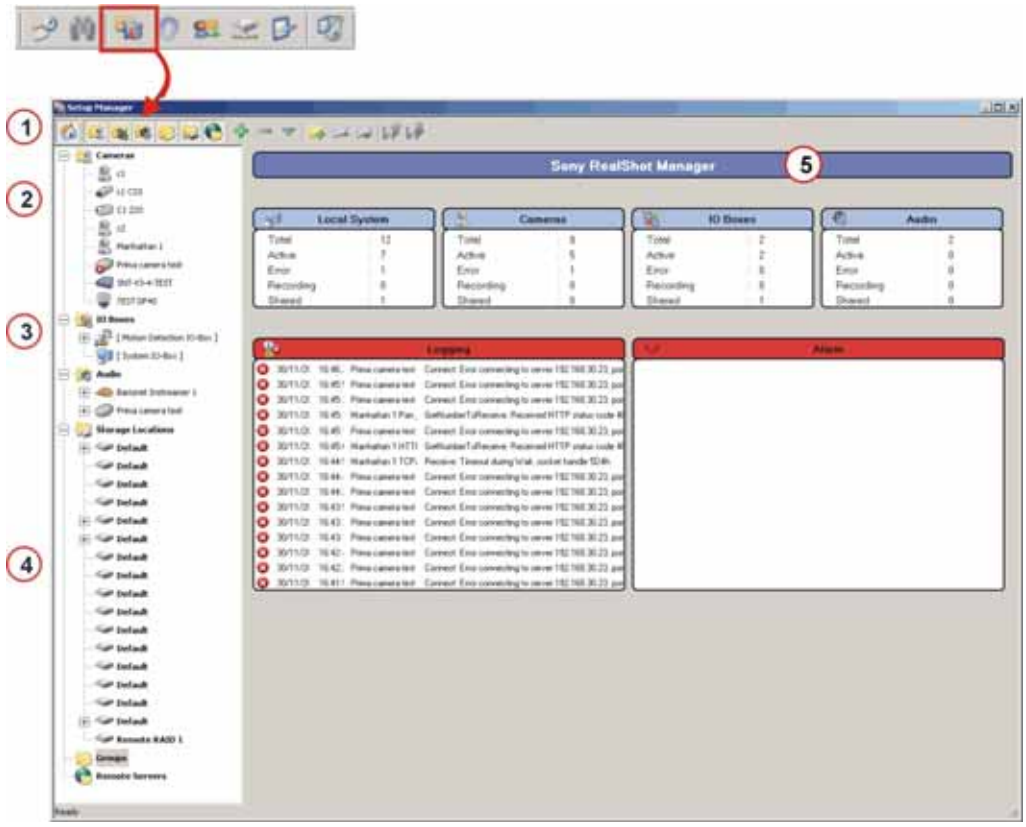


Figure 157 The Setup Manager Home Window

1) To view the ‘Overview Window’, select the ‘Home’ icon from the Setup Manager toolbar.
2) The Devices are listed in a tree with top-level partitions: Cameras, IO Boxes and Audio. All devices are shown in their partition e.g. all Cameras appear in the Cameras partition even if they are members of a Group.
3) Devices can be grouped using a hierarchy of ‘Groups’ that is built as described in ‘Managing Groups’ on page 138.
4) For users with the correct privileges, access to Remote Servers can be added as described in ‘Remote Cameras’ on page 118. Cameras attached to the remote servers also appear in the ‘Cameras’ list but with the name of the server as part of the path, e.g. ‘Manhattan1@RSMServer’ as shown in Figure 157.
5) The ‘Overview Window’ displays statistics about activities within the RealShot Manager system. The details shown are as follows:

- Local System – Displays a summary of the configuration, status and recent activities of all devices configured on this host.

- Cameras - Describes the configuration and recent activities of configured cameras.
- IO Boxes - Describes the configuration and recent activities of configured I/O boxes.
- Audio - Describes the configuration and recent activities of configured audio boxes.
- Logging – Displays recent logging messages describing activity or connection problems.
- Alarm – Displays recent triggering of configured alarm inputs.

Managing Devices

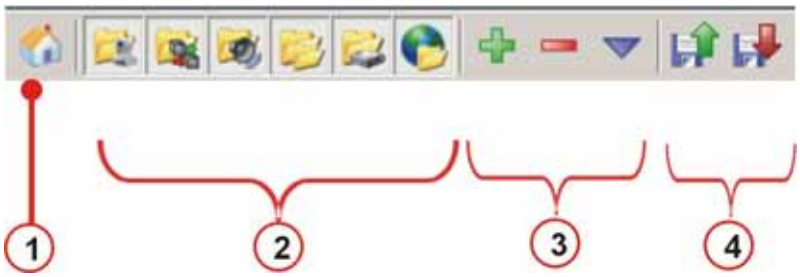


Figure 158 The Setup Manager Toolbar

Select the icons listed to perform the described actions:

1) Display the Overview window with statistics of activity within the system, see Figure 157.

2) Filter the Device/Group/Server List, if any section of the list is not shown check that the filter button is selected.

Display Camera Section

Display IO Section

Display Audio Section

Display Storage Locations Section

Display Groups Section

Display Remote Servers Section

3) Device Management tools:

Add a device

Remove a Device

Edit details of a Device

4) File Operation tools:

- Import (load) camera settings into the camera database from a file.

- Export (save) camera settings from the camera database to a file.

Note: The following icons will appear on the toolbar if a storage location or IO pin is selected in the device tree:

Assign Camera(s) to a Device

Remove Camera assignment(s)

Understanding the Device/Group List

The device list initially has 5 categories but no entries when the application is first started after installation. If devices and groups are registered in an organised way, the effort required to populate and maintain the list is minimised.

The categories are:

- Cameras

- IO Boxes
- Audio
- Storage Locations
- Groups
- Remote Servers

Using Setup Manger Groups

The Setup Manager can be used to organise devices into groups. Groups are simply a way of organising devices.

The three main advantages to organising devices into groups are as follows:

1) If you have a system with many servers and cameras, organising them into logical groups makes administration of scheduled events easier.
2) You can set permissions for users or user groups to access groups of devices to ensure that access is controlled.
3) Proxy Server settings (which are often the same for groups of devices) can be set once for a group of cameras, this saves time over having to set them individually for each one in turn.

You may group your devices by location e.g. country, office, street, etc; or you may choose to group them into in other ways. RealShot Manager allows you to choose any method of grouping devices that makes sense to you.

Adding a Device

To add a new device, select the appropriate top-level partition from the device tree in the left-hand pane of the Setup Manager.

Overview

Select the 'Add Device' icon from the Setup Manager toolbar.

Use the 'Select a device type' drop-down box to select the type of device you are adding.

Enter a name and network details for the device.

For details of the additional information required by each specific device type see the appropriate sections for Cameras, IO Boxes and Audio Boxes.

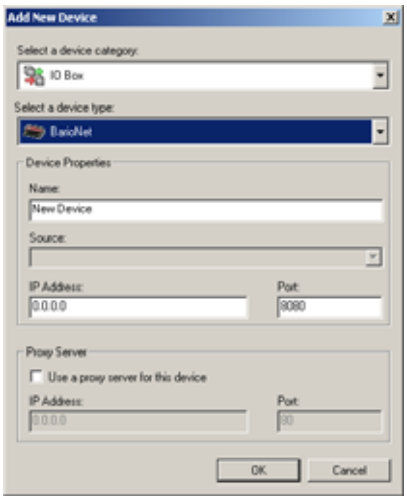


Figure 159 Adding a New Device

Setting and Modifying Device Details

Overview

You can modify the properties for any registered device:

1) Select the device group from the Setup Manager e.g. ‘Cameras’. Expand the group (+) and select an individual device from the right-hand list. The device properties are displayed below the right-hand list.

2) Edit the properties as required select Apply to save your changes. For a description of the specific details to be entered for each device type see the appropriate sections on Cameras, IO Boxes and Audio Boxes individually.

When a device has been added to RealShot Manager it will be necessary to edit the device properties as described below to define the exact behaviour of the camera.

Common Device Properties

TCP/IP Settings

The TCP/IP and Proxy Server settings are the same for all device types:

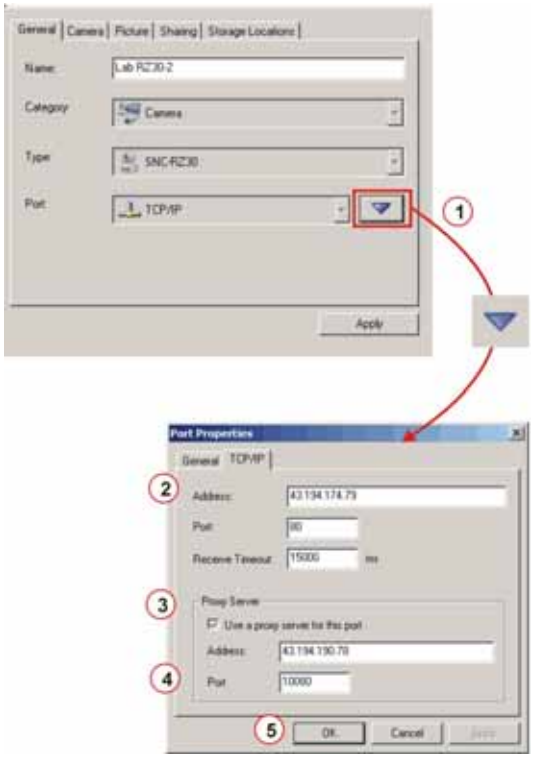


Figure 160 TCP/IP Settings

1) From the General tab of the device properties in the Setup Manager, open the Port settings.

2) Enter the IP Address for and port number for the device.

3) Enter the modified time to wait for a response to a TCP/IP connection request before reporting an error.

4) With the ‘Use a proxy server for this port’ check-box enabled, you can enter new proxy server details into the ‘Address:’ and ‘Port:’ boxes if connecting to the camera through a proxy server.

5) Enter Apply to save your changes, enter OK to save your changes and exit the dialog, select Cancel to exit the dialog without saving any changes.

Note: If the same proxy server is used for many devices then it is quicker to enter proxy server details for a whole group of devices rather than repeating the setting for each camera.

Deleting Devices

If Cameras, IO Boxes or Audio Devices are removed from the network, you can remove their details from RealShot Manager. See Figure 161.

Figure 161 Delete Device

1) Select one or more cameras to delete in either of the list panes in the Setup Manager. Holding down the Shift key and left-mouse click to select a block of Devices or hold down the Ctrl key and left-mouse click to select multiple Devices individually.
2) Click on the 'Delete' icon.
3) A confirmation box is displayed asking you to confirm the deletion, select Yes to complete the delete operation. The dialog is closed and the selected Devices are removed from the list. Select No to cancel the operation and close the dialog without altering the list of Devices.

Managing Cameras

To add cameras to RealShot Manager for monitoring and/or recording, use the Setup Manager as described below:

Local Cameras

Recordings from a 'local' camera are stored on this host PC. There is typically a limit of 32 local cameras for each RealShot Manager client PC, however the actual limit depends on the license limitations. To add a local camera, follow the procedure below:

1) Select the 'Cameras' partition in the Setup Manager device list; this will activate the Add, Remove and Edit buttons on the Setup Manager toolbar, see Figure 158.
2) Select the 'Add' icon - . If you have selected the wrong partition, 'Camera' will not be selected in the 'Select a device category:' drop-down box. Select 'Camera' from this list if necessary, see Figure 162.
3) Select a type of camera or network device from the combo-box, there are a limited number of types of camera to choose from; currently the RealShot Manager software supports direct connection to the following:

Device		Description
SNC-RZ30/SNC-RZ30/2	–	camera with remote control of pan, tilt and zoom (PTZ).
SNC- VL10	–	camera with fixed pan and tilt and remote control of digital zoom.
SNC-Z20	–	camera with zoom facility.
SNC-CS3	–	similar to the SNC-VL10
SNC-P1	–	camera with audio monitoring facility, MPEG4.
SNC-DF40	–	Mini dome camera, MPEG4.
SNT-V304	–	video processor that allows connection of up to 4 analogue cameras (any make/model). The box provides 4 analogue inputs and supports communications via the network for each of the four cameras.

SNT-V501	–	video network processor that supports connection of one analogue camera.
SNT-V504	–	video network processor that supports connection of up to four analogue cameras. Local cameras can be connected to any one of the four inputs. The unit only supports output of a video stream from one of the 4 cameras at a time or a quad output showing reduced size images from all four cameras.

4) Enter a name for the camera – this name should be descriptive of the cameras location as it is displayed on screen in the camera monitor window e.g. Car Park Level 4.
5) Ensure that you choose the correct type by checking on the case of the camera. If you select an analogue camera converter box e.g SNT-V304, then you should also select the camera source from the extra drop-down list that is displayed. See 'Adding Sources for Network Stations' on page 116. If you select the SNC-VL10 you will also need to select the Source from a drop-down list in this case select one from: Internal or External1-External6. Repeat the 'Add Camera' procedure to add additional sources connected via the SNT-V304 OR SNC-VL10.
6) Enter the IP address and Ethernet port for the camera. These settings are configured on the camera when it is installed.
7) In some network configurations, you will be accessing the camera via a proxy server, check with your Network Administrator for details. If a proxy server is in use, enable the 'Use Proxy Server…' check box and enter the IP address and port of the proxy server. Select OK to register the camera settings with the Setup Manager. The camera is now visible in camera list. The new camera is added to the 'Cameras' partition. You can add the camera into an organisational Group if you wish. See 'Managing Groups' on page 138.

With the 'Cameras' partition selected, the new camera is also displayed in the right-hand list pane. To display the camera's detailed properties select it in this right-hand list. For details of how to set the properties for the new camera, see 'Managing Cameras' on page 115.

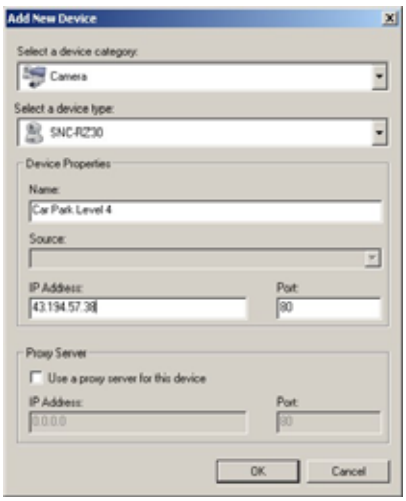


Figure 162 Adding a Local Camera

Adding Sources for Network Stations

Network stations like the SNT-V304 act like a hub. The SNT-V304 and SNT-504 can have a maximum of four analogue cameras connected. Once the cameras are connected the network station takes their video outputs and makes the video available on the network. The SNT-501 allows connection of a single analogue camera to the network.

Figure 163 The SNT-V304

When adding an SNT-V304/SNT-504 to the system there can be up to four camera entries in the Setup Manager, one for each camera attached to it. Each entry should have a different name, related to the camera attached and a different input should be selected for each.

Figure 164 Adding a Network Station

The network station has a single network connection; so all four entries should have the same IP address, port and proxy settings.

For the host PC to act as a RealShot Manager Server, i.e. directly connected to cameras for monitoring and recording, the ‘Enable sharing this computer:’ check-box should be enabled and a share name and port number should be entered, see Figure 142.

Remote Cameras

A Remote Camera is one that is managed by another PC on the network. In order to add a remote camera you must first add its host PC to the 'Remote Servers' list in the Setup Manager.

To add a remote camera, follow the procedure below:

1) Ensure that the 'Remote Servers' partition is visible by ensuring the appropriate filter is selected from the Setup Manager toolbar.
2) Select the 'Remote Servers' partition from the list in the left-hand pane of the Setup Manager; this will activate the Add, Remove and Edit buttons on the Setup Manager toolbar, see Figure 158.
3) Select the 'Add' icon - . If you have selected the wrong partition, 'Remote PC' will not be selected in the 'Select a device category:' drop-down box. Select 'Remote Server' from this list if necessary, Figure 165.
4) Select 'Remote PC Interrogator' from the 'Select a device type' drop-down list
5) Enter a name for the Server in the 'Name:' field.
6) Enter the IP address and Ethernet port for the Server.
7) In some network configurations, you will be accessing that area of the Network via a proxy server, check with your Network Administrator for details. If a proxy server is in use, enable the 'Use Proxy Server…' check box and enter the IP address and port of the proxy server.
8) Select OK to register the Remote Server settings with the Setup Manager. The camera is now visible in camera list.
9) The new PC is added to the 'Remote Servers' partition. Any devices managed by that server can be expanded as a sub-tree. Each device also appears within its own device partition, e.g. a Camera will appear in the 'Cameras' list with path <camera name>@<server name>

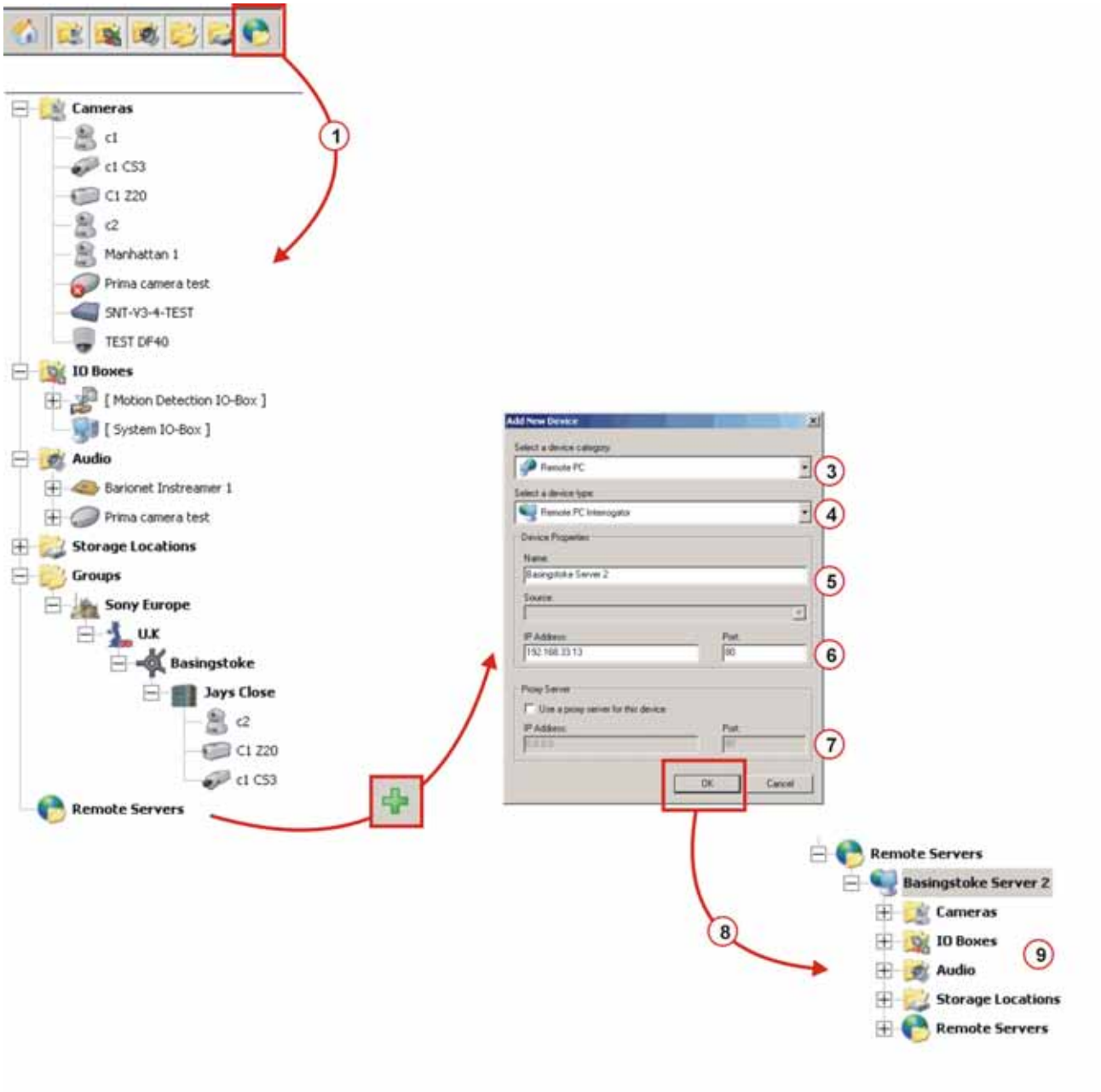


Figure 165 Adding a Remote Server

With the ‘Remote Server’ partition selected, the new server is also displayed in the right-hand list pane. To display the camera’s detailed properties select it in this right-hand list. For details of how to set the properties for the new server, i.e. just the TCP/IP properties see ‘TCP/IP Settings’ on page 114.

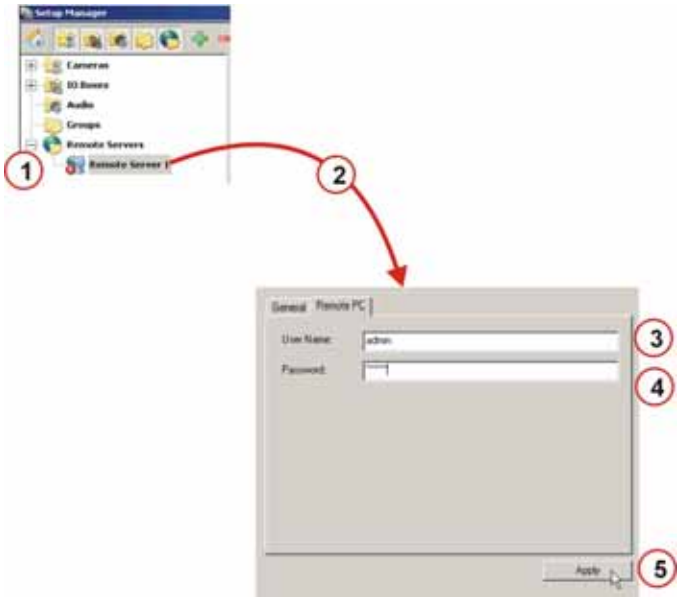


Figure 166 Remote Server Login Details

If you open the Device Properties of a camera associated with a remote server, a ‘remote server’ icon is displayed in the affected tabs of the properties, see Figure 167.

To set the account that will be used to log into the remote server:

1) Select the Remote Server from the list in the Setup Manager.
2) Select the Remote PC tab from the device details.
3) Enter the user name required for the login.
4) Enter the password required for the login.
5) Select Apply to save the login details.

These login details must match the ones entered on the Remote Server PC in the ‘Remote and Sharing’ tab of the General Settings, see ‘Remote Access and Sharing’ on page 97.

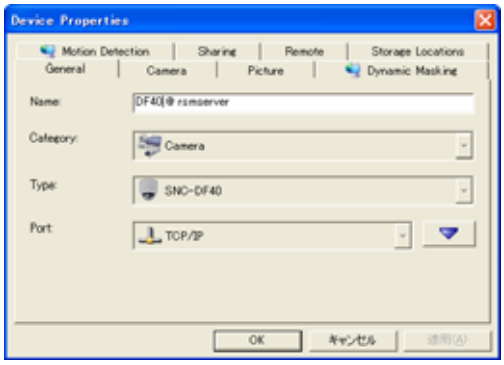


Figure 167 Remote Properties

Setting Camera Properties

General

The ‘General’ settings for a camera detail the type of model and its network connectivity. See Figure 168:

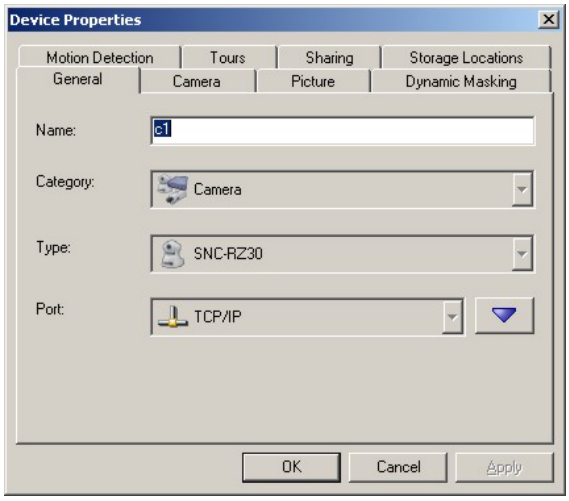


Figure 168 Camera General Settings

1) Camera Name – editable, make this as descriptive of the camera location and purpose as possible. If the camera is managed by a remote server then the name will be shown as <camera name>@<server name>.
2) Category – These are displayed for information only, they are not editable.
3) To modify the Port details, click on the button, this will open the TCP/IP Properties dialog, see TCP/IP Settings on page 114.

Camera

Select a camera and then ‘Camera’ tab of the properties in the Setup Manager. The fields in this dialog describe the settings for communication with the camera and retrieval of images. See Figure 169. Many of these settings depend on the model of camera or on other settings within the tab. Refer to ‘

Camera Settings dependent on Camera Model' on page 131 for more details about the settings available for each model of camera.

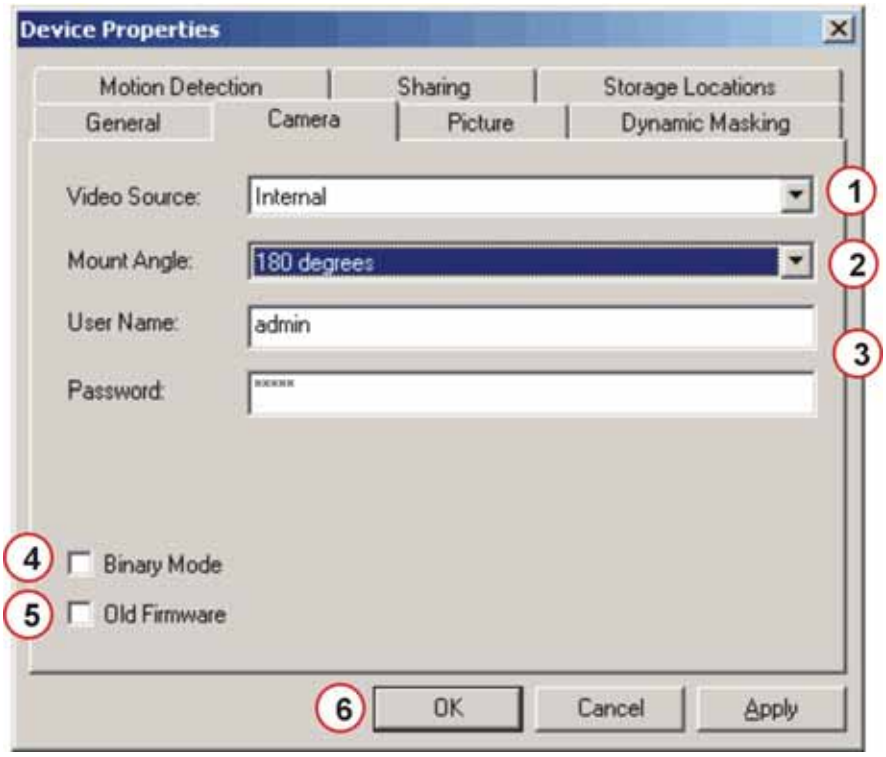


Figure 169 Camera Properties – Camera Tab (Varies with model)

1) Video Source - Select 'Internal' to accept the image generated directly from a camera connected to the network, select one of the 'External inputs' for video sources connected to a video network station with multiple inputs. This field will be greyed-out if the camera model only supports one internal video source.

   Note: The Video Source field is only available in Setup Manager, it cannot be set by opening the camera properties by double clicking on a monitor window or, having selected a monitor window, using the Camera Properties icon from the main toolbar.

2) Mount Angle - Select the angle (0º, 90º, 180º, 270º) at which the camera has been mounted to enable adjustment of the returned image so that it is the correct way up.
3) User Name - Each camera in the system will have login details, i.e. a user name and password assigned. Enter the same user name and password here to enable RealShot Manager to control and administer the camera.
4) Binary Mode, an example of a model specific setting via check-boxes, see '
5)
6)
7) Setting Camera Properties' on page 121 for a description.
8) Old Firmware, an example of a model specific setting via check-boxes, see '
9)
10)
11) Setting Camera Properties' on page 121 for a description.
12) Select Apply to save your settings without exiting the dialog.

Picture

The Picture tab allows you to set the default settings for the camera. The current settings are shown for reference.

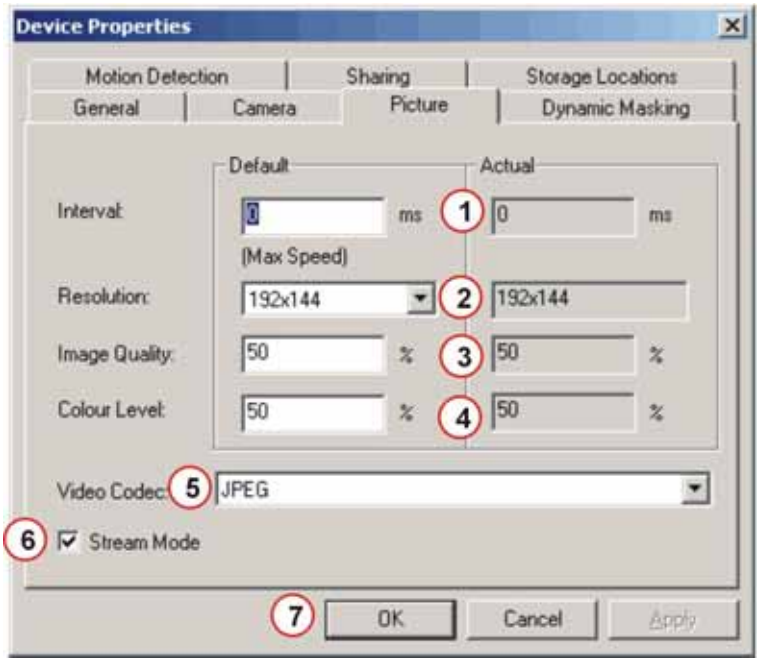


Figure 170 Picture Settings

1) Interval - Enter the minimum interval between requesting new pictures from the camera. For example 40ms = 25 fps, 100ms = 10 fps, 0ms = Maximum speed.
2) Resolution - Select the resolution of the image to be returned by the camera. The values available here are those supported by the model of camera selected.
3) Image Quality - Enter the quality (between 0% and 100%) of the image to be returned by the camera.
4) Colour Level - Enter the amount of colour (0% - black and white to 100% - full colour) of the image to be returned by the camera.
5) Video Codec – (only applicable to the SNC-P1 and SNC-DF40) Select from JPEG or MPEG-4.[1]
6) Image Transfer Mode - Select the mode by which images are transferred between the camera and RealShot Manager, e.g. 'Stream Mode'. The options available here depend on the camera type selected in the General tab, see 'Transfer Mode' on page 132 for a description.
7) Apply – Select this button to save your changes.

[1]Note: The SNC-P1 and the SNC-DF40 support JPEG or MPEG4 image streams. The RealShot Manager administrator can decide which to use (but the whole RSM system should always use the same video codec, either JPEG or MPEG4).

In line with the RSM system design philosophy, each camera should be accessed by a single RSM PC only, so this setting is only made once for the whole system. The decision between JPEG and MPEG 4 is based on the trade-off between bandwidth and picture quality per SNC-P1 camera. It is possible to have some SNC-P1's set for JPEG streaming and some others for MPEG4. Each individual camera can only support one VideoCodec format at the same time.

Motion Detection

Setting an area for detecting motion

For each camera one or more 'Motion Detection Masks' can be configured that specify an area to be monitored for motion. Open the Camera Properties window by either:

- Double-clicking on a monitor window that is showing an image where a mask is required.
- Selecting a Camera in the 'Cameras' list or Group in the Setup Manager.

Select the 'Motion Detection' tab.

Select the 'No Motion Detect during PTZ movement' check-box to avoid false detection during pan, tilt or zoom.

Masks are set up and modified as follows:

1) Select 'Add' to set up one or more new areas of interest. Alternatively, select an existing area and then 'Edit' to open the details for modifying.
2) Use the Motion Detection toolbar to create you areas of interest, see Figure 172.
3) Area Mode: Set to 'Include' to detect motion within the marked areas or to 'Exclude' to detection motion outside of (all of) the marked areas.
4) Configuration Name: Type a name for the configuration, this will be used to schedule alarm events based on motion detected in these areas, the name must be unique for each camera.
5) Display Color: Using the Colour selector, see Selecting a Colour on page 22, choose the Colour to fill the Motion Detection mask in the case of detected motion.
6) Preset Name: Select the preset that belongs to configuration, the camera will be moved to this preset when configuration becomes active, i.e motion is detected in the specified region(s).
7) Threshold: The sensitivity level (1-100) is used to determine if there is motion between frames (used by the motion detection processor).
8) Select 'Expert Mode' to allow you to modify further parameters describing the Motion Detetion behaviour.
9) Modify the 'advanced' parameters as required, see Figure 172.
10) Select OK to exit the Motion Detection window saving your changes or Cancel to exit without saving.
11) Your new configuration will appear in the list if saved.
12) Select Apply to confirm the listed configurations.
13) Select 'Edit' to open the configuration again if you wish to modify it.
14) Select 'Delete' to remove the selected configuration.
15) Select OK to leave the Device Details saving your changes and Cancel to exit without saving.

As a result of adding a Motion Detection configuration, a motion detection pin will be added automatically to the Motion Detection I-O Box. It is not possible to add pins to this special I-O box manually. See section Activity Detection on page 144 for further details.

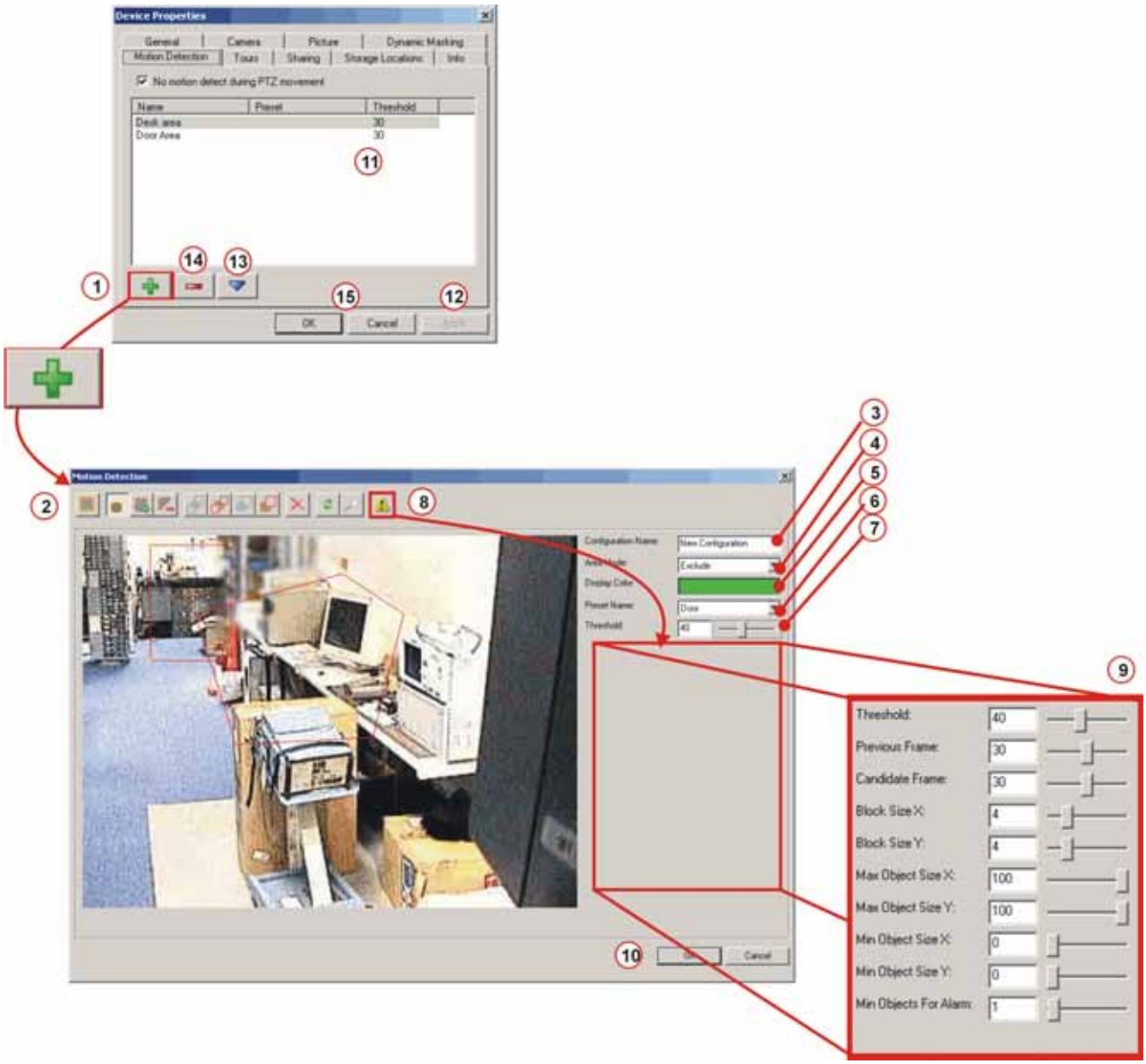


Figure 171 Motion Detection Overview

The Motion Detection Toolbar

The Motion Detection toolbar allows you to create and manipulate motion detection masks. Details of the toolbar are shown in Figure 172.

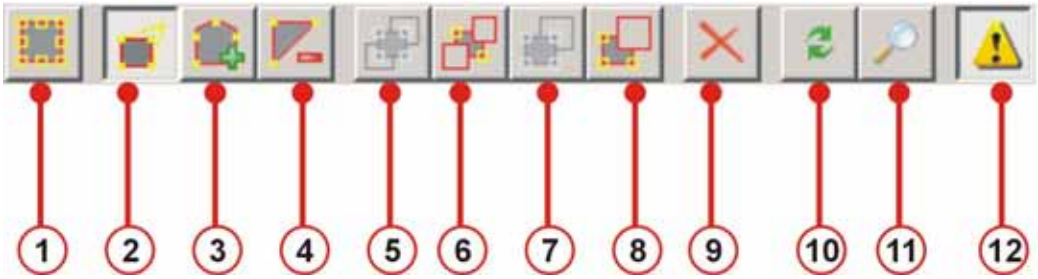


Figure 172 The Motion Detection Masking Toolbar

1) Move Motion Detection Mask – Allows you to drag a rectangular area to create a mask and move the mask around.
2) Edit Points – Enables the 'add and remove points' tools for creating a more complex mask shape.
3) Add Point (Ctrl + left-click on line) – Allows you to add an edit point to the mask, splitting the selected side at the specified point.
4) Remove Point (Ctrl + left-click on point) – Allows you to delete an edit point from the mask, reducing its number of sides by one.
5) Bring to Front – Brings the selected mask to the front of a stack of masks.
6) Send to Back - Sends the selected mask to the back of a stack of masks.
7) Bring Forward - Brings the selected mask forward one in a stack of masks.
8) Send Backward - Sends the selected mask back one in a stack of masks.
9) Delete Mask – Deletes the selected Mask.
10) Refresh Image – Refreshes the still image as it appears with all masks applied.
11) Preview – Shows the live camera image with the Motion Detection Masks applied.
12) Expert Mode – Allows you to modify a number of 'advanced' parameters for this confinguration:

- **Previous Frame** : The number of previous frames (1-60) to look back (used by the motion detection processor)
- **Candidate Frame** : The number of candidate frames (1-60) to look back (used by the motion detection processor)
- **Block Size** : The size of the blocks (1-16) used to determine motion (used by the motion detection processor)
- **Max Object Size** : The maximum size of an object that will count as an alarm, the object size is expressed as a percentage of the image size (1-100).
- **Min Object Size** : The minimum size of an object that will count as an alarm, the object size is expressed as a percentage of the image size (1-100).
- **Min Object For Alarm** : The minimum number of objects (0-100) that must be detected before raising alarm.

Dynamic Masking

Setting a Dynamic Mask

For each camera one or more 'Dynamic Masks' can be configured that will cover a static object in-shot regardless of the PTZ actions of the camera. Masks are set and modified as follows:

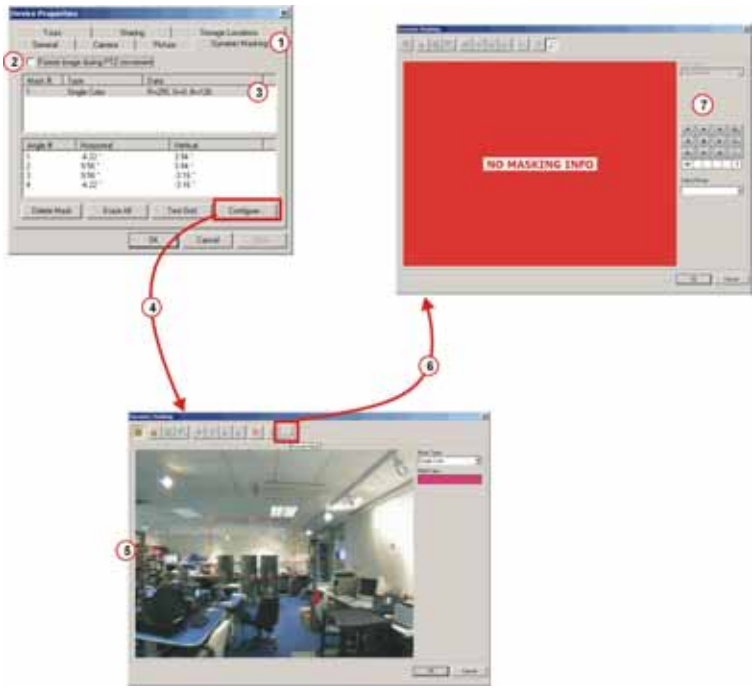


Figure 173 Dynamic Masking Overview

1) Open the Camera Properties window by either:
- Double-clicking on a monitor window that is showing an image where a mask is required.
- Selecting a Camera in the 'Cameras' list or Group in the Setup Manager.

   And select the 'Dynamic Masking' tab.

2) Select the 'Freeze image during PTZ movement' to avoid picture breakup during pan, tilt or zoom.

3) If you select an existing masking entry, you can modify its parameters otherwise you are creating a new mask.

4) Select Configure… to open the 'Dynamic Masking' window.

5) Create or modify the mask using the dynamic masking toolbar facilities

6) Select 'Preview' to see how the mask will appear.

7) Use the pan, tilt and zoom controls to check that the mask tracks your masked object correctly. NB: Only applicable for cameras with PTZ functionality.

The Dynamic Masking Toolbar

The toolbar for dynamic masking,see Figure 174, allows you to build multi sided shapes for use as masks. It allows you to control the ordering of overlapping masks and gives you the facility to preview dynamic masks in action.

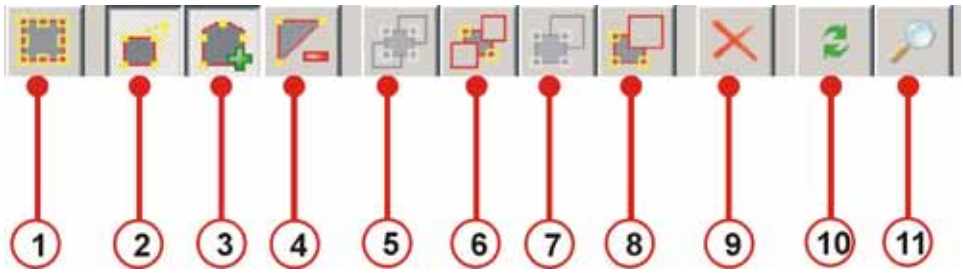


Figure 174 The Dynamic Masking Toolbar

1) Move Dynamic Mask – Allows you to drag a rectangular area to create a mask and move the mask around.

2) Edit Points – Enables the add and remove points tools for creating a more complex mask shape.

3) Add Point (Ctrl + left-click on line) – Allows you to add an edit point to the mask, splitting the selected side at the specified point.

4) Remove Point (Ctrl + left-click on point) – Allows you to delete an edit point from the mask, reducing its number of sides by one.
5) Bring to Front – Brings the selected mask to the front of a stack of masks.
6) Send to Back - Sends the selected mask to the back of a stack of masks.
7) Bring Forward - Brings the selected mask forward one in a stack of masks.
8) Send Backward - Sends the selected mask back one in a stack of masks.
9) Delete Mask – Deletes the selected Mask.
10) Refresh Mask – Refreshes the still image as it appears without the masks applied.
11) Preview – Previews the live camera image as it appears with the Dynamic Masks applied.

Mask Types

A solid colour or a range of patterns, as shown in Figure 175, can be used to fill the mask:

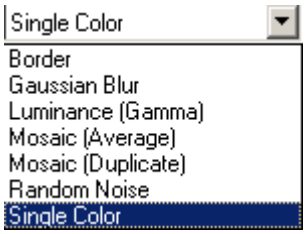


Figure 175 Mask Fill Patterns

Select the required fill and then for Single Colour masks select the required colour from the colour picker below. For the some mask types, e.g. Random Noise and Luminance (Gamma) you will also be able to select the level of the masking.

Note: For Gaussian Blur and Mosaic masks the blur size in pixels is not changed with the zoom factor. This means that if a mask is set when not at maximum zoom then masked text may still be legible if the operator zooms in. To ensure security, set the blur or mosaic size at maximum zoom.

Previewing the Mask(s)

Having selected 'Preview' from the Dynamic Masking window, use the PTZ controls or preset drop-down list to control the image. Ensure that your masks continue to cover their targets.

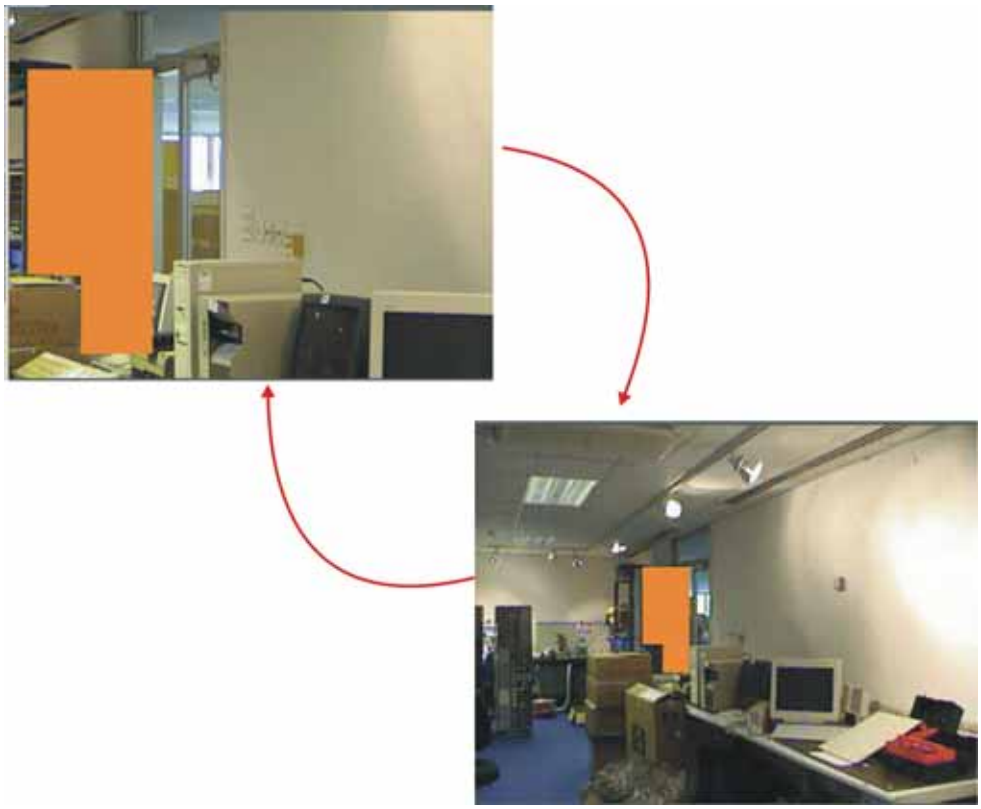


Figure 176 Testing a Dynamic Mask

Tours

Tours are configured lists of presets that the camera can trace. See ‘Building a Tour’ on page 46.

Sharing

This tab of the device properties allows you to specify the access to the device from the network.

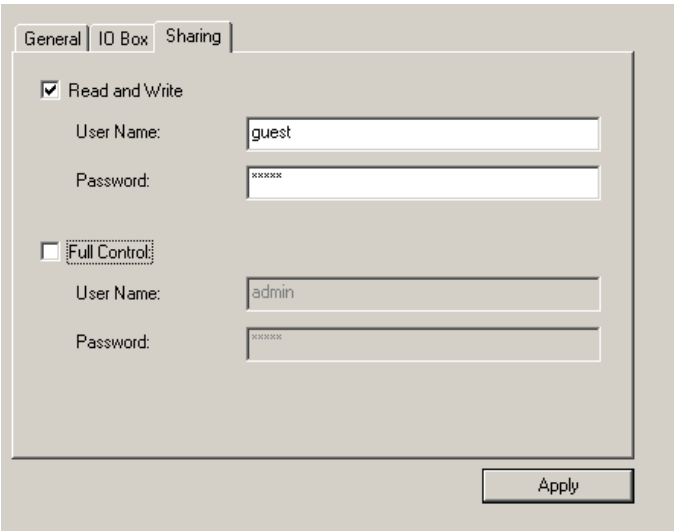


Figure 177 Sharing Parameters

Select the type of access allowed for this device across the network:

- Read and Write or
- Full Control.

For either option enter the user name and password that will be required to gain that level of access.

Select Apply to save these changes.

Storage Locations

Assigning a Storage Location

For each camera, the destination of recorded images can be configured. This is described in the section on housekeeping of storage locations, see ‘Managing Storage Locations’ on page134.

Info

The ‘Info’ tab of the device properties will show you details about the device such as:

- Model Name
- Software Version
- Serial Number etc.

1) To display the full information that can be accessed about the device, select Show All from the Info tab.
2) Note that since this information is read-only, the ‘Apply’ button is unavailable.

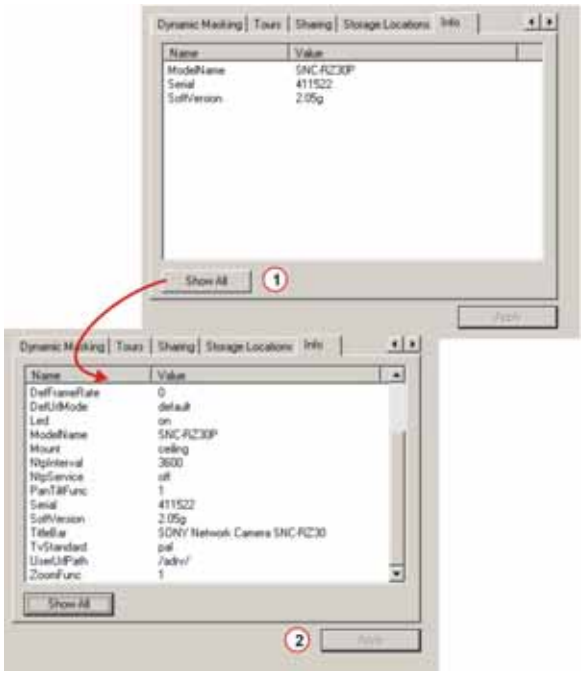


Figure 178 Device Information

Camera Settings dependent on Camera Model

The following table describes the communication and image settings supported by each model of Sony camera with RealShot Manager connectivity. Any settings not in this table are independent of the camera model:

Camera Model	**SNC-VL10**	**SNC-RZ30 or SNC-RZ30/2**	**SNC-Z20**	**SNC-CS3**	**SNC-P1**	**SNC-DF40**
Video Source	Internal External 1 – 6 inclusive	N/A	N/A	N/A	N/A	N/A
Interval	Always available	Always available	Always available	Always available	Always available	Always available
Resolution	92 x 72 180 x 144 360 x 288 720 x 288 720 x 576	160 x 120 320 x 240 640 x 480 (Auto) 640 x 480 (Frame) 640 x 480 (Field) 736 x 544 (Auto) 736 x 544 (Frame) 736 x 544 (Field)	As SNC-RZ30	As SNC-RZ30	160x120 192x144 224x168 256x192 320x240 352x264 384x288 416x312 448x336 480x360 512x384 544x408 576x432 640x480	160x120 192x144 224x168 256x192 320x240 352x264 384x288 416x312 448x336 480x360 512x384 544x408 576x432 640x480
Image Quality	Always available	Always available	Always available	Always available	Always available	Always available
Video Codec	N/A	N/A	N/A	N/A	JPEG MPEG4	JPEG MPEG4

Table 6: Camera Settings by Model

Network Station Limitations

Network Station Model	SNT-V304	SNC-V501	SNC-V504
Video Source	Input 1 – Input 4 inclusive	Input1 Input 2 Input 3 Input 4 Quad Large 1 Small 2,3,4 Large 2 Small 1,3,4 Large 3 Small 1,2,4 Large 4 Small 1,2,3	
Interval	Only available in 'non-stream' mode	Always available	Always available
Resolution	Half Size (176 x 144) Full Size (352 x 288) Huge Size (704 x 576)	160 x 120[1] 320 x 240 640 x 480 [2] 736 x 544	160 x 120 320 x 240 640 x 480 736 x 544
Image Quality	Always available	Always available	Always available

Table 7: Camera Settings by Network Station Model

[1] The rage of resolutions available may depend on whether the camera is local/remote or a locally mapped remote camera.

[2] The 640 x 480 and 736 x 544 settings are set with auto, frame or field.

SNT-V304 Frame Rate Limitations

When setting the 'Interval' field for the SNT-V304; consider the following:

- The maximum frame rate that can be obtained from this unit depends on how many input sources are in use.
- The maximum frame rate is 25 fps for 1 input, 12 fps for 2 inputs, 8 fps for 3 inputs and 6 fps for the maximum 4 inputs.

Transfer Mode

When setting the image transfer mode for the SNT-V304; consider the following:

- There are a number of different transfer modes available to transfer pictures from the camera to the RealShot Manager PC.
- The modes that are available depend on the model of camera and each has certain advantages and disadvantages. The availability of the different transfer modes depends on the camera model. See the table below:

	Model	SNC-VL10	SNC-RZ30/ SNC-Z20/ SNC-CS3	SNT-V304/ SNT-V501 /SNT-504	SNC-DF40	SNC-P1
Transfer Mode	**Binary**	Y	N	N	N	N
	Streaming	Y (if Binary mode = OFF)	Y	Auto	Y JPEG	Y JPEG
	Old Firmware	Y (if Binary mode = OFF)	N	N (Y for SNT-V304)	N	N
	Auto Pan&Tilt Speed	N	Y	N	N	N

Table 8: Transfer Mode by Camera Model

Binary Mode

When setting the image transfer mode for the SNC-VL10; see (9) in Figure 169 consider the following:

- The SNC-VL10 is the only camera that supports the selection of binary mode transfers.
- If binary mode is selected a dedicated protocol is used to connect to the camera using TCP/IP on port 8080 (fixed). This mode has the advantage that it allows an exact interval to be set for capturing images from a camera; this is useful for time-lapse recording. The disadvantage of this mode is that because the I/P details are fixed, it doesn't allow connection to the camera through a proxy server.
- If binary mode is not selected then HTTP protocol is used and you are then able to select 'Stream' and/or 'Old Firmware' modes.

Stream and Non-Stream Modes

If stream mode is selected then RealShot Manager will request a continuous stream of images from the camera. Note that stream mode is not supported by the SNT-V304.

Stream mode provides several advantages:

- The maximum frames per second transfer speed can be achieved.
- The camera controls the output of frames so a continuous stream is produced with no missed frames and no duplicate frames.
- Transfer of images is possible through a proxy server.

The main disadvantage of stream mode is that it does stream the number of images requested continuously. A busy server must retrieve all the streamed images from an incoming buffer, leaving it reduced CPU capacity for other processing.

Stream mode is the preferred transfer mode for normal recording and viewing of images and is set as the default when cameras are added to the Setup Manager.

If non-stream mode is selected then RealShot Manager will request images from the camera one frame at a time. This setting should be used where Timelapse recording or a precise frame rate is required.

The SNT-V304 auto-switches stream mode based on the current interval/fps value. Stream mode for the SNT-V304 is shown as enabled but greyed-out, i.e. read only. Stream mode will be automatically activated when the frame rate is set to a value that is compatible with stream mode. This enables dynamic turning on/off of stream mode based on recording schedules, for instance in combination with the retail module.

Old Firmware

The SNC-VL10 and the SNT-V304 are the only cameras that support this mode as they are the only cameras for which RealShot Manager supports multiple versions of firmware.

Auto Pan & Tilt Speed

When this is enabled, the pan and tilt speeds are matched to the level of zoom. The speed is reduced ath high levels of zoom and the speed is increased as you zoom out.

Audio Codecs in the SNC-P1

The audio bit rates supported for file download to the camera are as follows:

Audio Codec	Transmission Rate
G.711 (μ-LAW)[1]	64 kbps
G.726	40 kbps
G.726[2]	32 kbps
G.726	24 kbps
G.726	16 kbps

The audio sampling rate is is fixed at 8kHz.

[1]ITU G.711 the international telephony standard for encoding telephone audio on an 64 kbps channel. It is a pulse code modulation (PCM) scheme operating at a 8 kHz sample rate, with 8 bits per sample.

[2]ITU G.726 is the most used speech-compression algorithm in telecommunications due to its high perceived speech quality and low resource requirements. It compresses 64 kbps speech to 40 kbps, 32 kbps, 24 kbps, or 16 kbps using adaptive differential pulse-code modulation (ADPCM).

Deleting Cameras

See ‘Deleting Devices’ on page 114.

Managing Storage Locations

You can specify multiple locations for files of images recorded from cameras. One or more of these locations can be assigned to each cameraThe Storage Locations group in the Setup Manager lists all the mapped storage locations available for storage of video and audio files. The files generated by a particular camera or Audio device can be routed to a storage location by dragging the camera/audio device onto the storage location entry, see the example of the C1 Z20 in Figure 179.

Adding/Modifying Storage Locations

Select to add a new associated storage location or select an existing location from the list and select to open its details as shown in Figure 179.

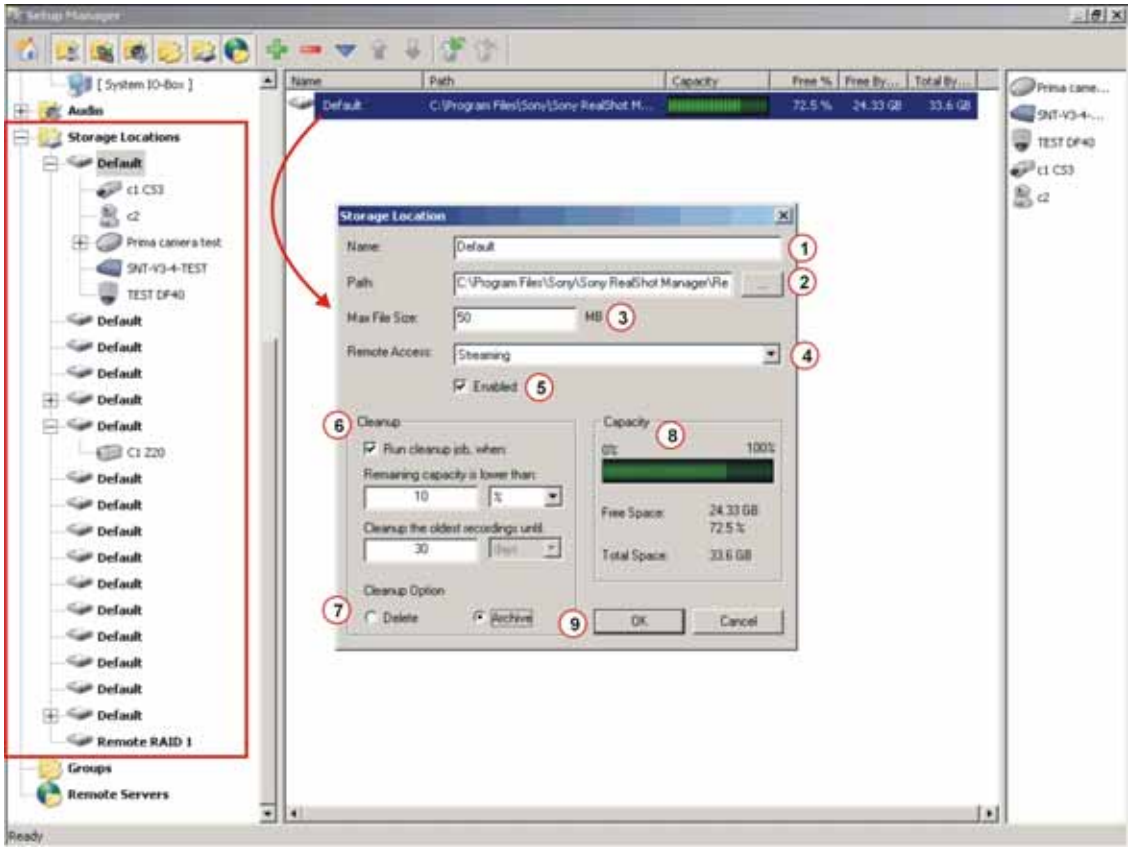


Figure 179 Add/Modify Storage Locations

1) Name - Enter the name of the storage location.
2) Path - This is the name of a local or shared directory on the network. Each directory to be used as a storage location must be manually shared. The share name of the directory must be entered here exactly as it was set up. For remote storage locations enter the full network path correctly.
3) Maximum File Size – This is the maximum size of a recording file,
4) Remote Access – This is the mode used to access files on the storage over the network, values are None, Streaming and Direct.

Note: Streaming means a file will be transmitted as if from a camera even from RSM server to a client. Direct means that the client must have access to the storage location via the Operating System (OS) on the server that holds the recordings. The client will then read the file itself from that location. This option requires OS security tuning as the client application must be able to access the server via the network.

5) Enabled – Check this box to enable use of the storage location.
6) Cleanup section - here you can specify what to do when the available storage space is reduced below a certain percentage or number of Mbytes. The options set here are active 24 hours a day, 7 days a week and the cleanup an therefore happen at any time. Cleanup jobs in the schedule should be set-up in preference to falling back on the default values here. For details of how to schedule Cleanup jobs. See ‘Cleanup Events’ on page 54.
7) Cleanup Option – Select ‘Delete’ to remove all items from this storage permanently or ‘Archive’ to move them to an external archive system from which they can be retrieved.
8) Capacity section- displays information about the available storage space - Remaining capacity is lower than - Fill in either a percentage or the number of Mbytes remaining to trigger the backup cleanup strategy. Cleanup the oldest recordings until - Enter minimum age in days of files to be removed. Files that were recorded on the system after this will not be deleted. Manual, alarm and normal recordings are all affected by the backup cleanup strategy.
9) Select OK to save your changes and Cancel to exit without saving them.

Removing Storage Locations

Select to remove a storage location from the list shown in Figure 182. When removing a location with recordings still associated with it, the warning shown by Figure 180 is displayed:

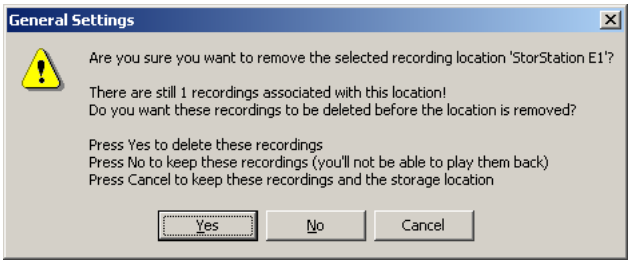

General Settings
Are you sure you want to remove the selected recording location 'StorStation E1'?
There are still 1 recordings associated with this location!
Do you want these recordings to be deleted before the location is removed?
Press Yes to delete these recordings
Press No to keep these recordings (you'll not be able to play them back)
Press Cancel to keep these recordings and the storage location
Yes
No
Cancel

Figure 180 Removing a Storage Location

Note: Deleting a 'Storage Location' that has data stored on it is slightly different to deleting one that does not. If no data stored, the options are 'Yes '(= Delete) and 'No' (= Don't Delete). If data is stored on the Storage Location to be deleted then the options are as follows: 'Yes' (= Delete storage location and recordings), 'No' (= Delete storage location but not recordings), and 'Cancel' (= Don't Delete).

Assigning a Storage Location for a Device

Select a storage location by double-clicking on its entry in the Setup Manager device tree, Figure 179. Select 'Assign Device(s)' from the Setup Manager toolbar.

3) Select the camera to be assigned to the storage location,
4) Check that the storage location now appears in the list displayed in the 'Storage Location' tab of the camera. See the example for the camera 'Tokyo_1' in Figure 181.

Figure 181 Example of Assigned Storage Locations

You can also manage the storage locations for a particular camera or audio device by selecting the camera in the Setup Manager and using the Storage Locations tab directly:

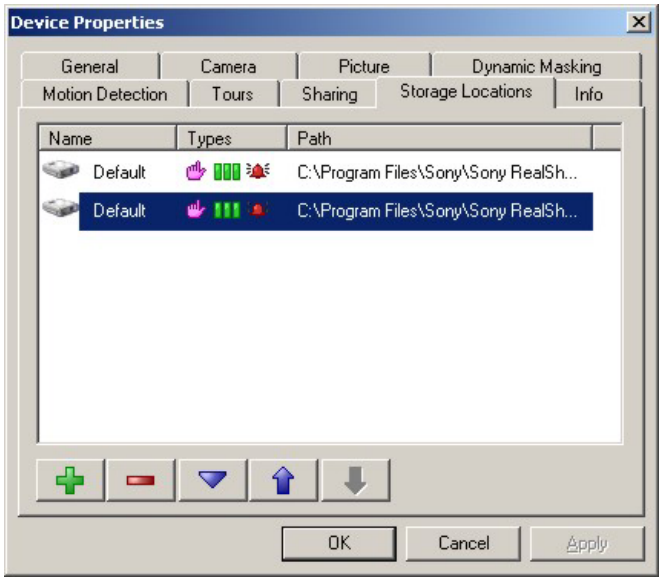


Figure 182 Managing Storage Locations

Use the following buttons to manage the storage locations list:

- - to add a new storage location, see Filtering Files for a Storage Location on page 138.
- - to remove a storage location from the list.
- - to show and edit the properties of a storage location, see Filtering Files for a Storage Location on page 138.
- 'Up and down buttons' – to rearrange locations by moving them up one position or down one position in the list.

Removing a Storage Location for a Device

1) Open the details for a device by double-clicking on its entry in the Setup Manager device tree, see Figure 181, or by highlighting it with a single left mouse-click and then selecting 'Edit' from the Setup Manager toolbar.
2) Select 'Remove Assigned Device(s) from the Setup Manager toolbar.
3) Select a camera or audio device which is assigned to the storage location. The camera is removed from the right-hand pane.
4) The device is removed from the storage location tree
5) Check that the storage location has been removed from the 'Storage Locations' tab of the camera's entry in the Setup Manager device tree, see Figure 181.

Reordering Assigned Storage Locations

Files for a particular device are stored on one of the assigned storage locations. Each location is checked for spare capacity etc. in the order they appear in the device's storage locations list. To modify the order of the storage locations:

1) Open the details for a device by double-clicking on its entry in the Setup Manager device tree, see Figure 181, or by highlighting it with a single left mouse-click and then selecting 'Edit' from the Setup Manager toolbar.
2) Select the 'Storage Locations' tab
3) Select or on to move the storage location to a new position in the list.
4) Select Apply to save your changes.

Filtering Files for a Storage Location

1) Open the details for a device by double-clicking on its entry in the Setup Manager device tree, see Figure 181, or by highlighting it with a single left mouse-click and then selecting ‘Edit’ from the Setup Manager toolbar.
2) Select the ‘Storage Locations’ tab.
3) Select the Storage Location to be modified
4) Select ‘Edit’ .
5) Use the filters in the ‘Select Type(s)’ area, see Figure 183, to choose which types from the following list are recorded to the selected storage location:

- Manual Recording
- Normal Recording
- Alarm Recording

6) Select OK to save your changes and exit the window.

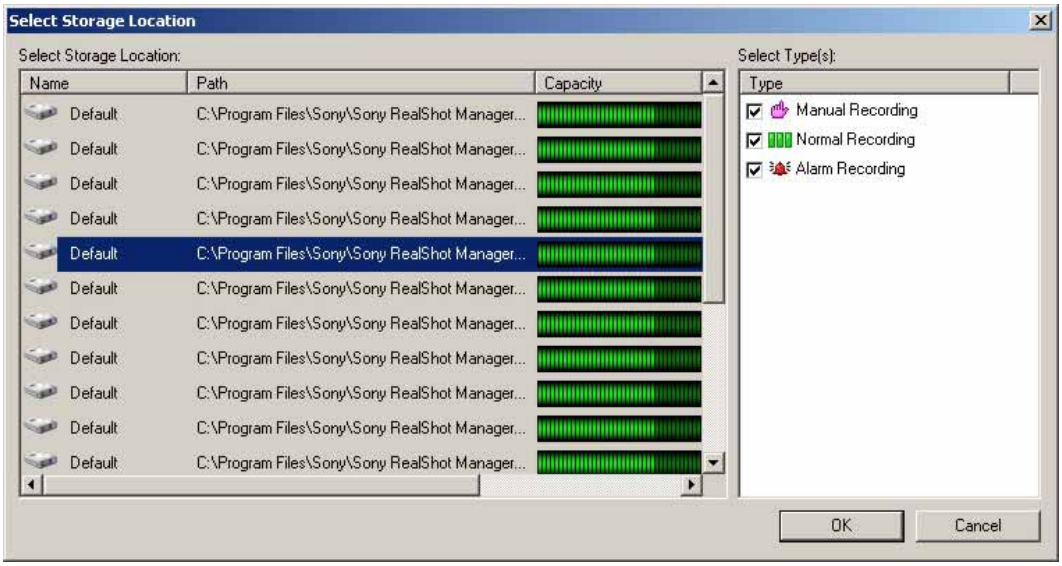


Figure 183 Filtering Storage Location File Types

Managing Groups

Select the ‘Groups’ branch of the hierarchy in the main Setup Manager window, see (3) in Figure 157. Additional icons are added to the Setup Manager toolbar to enable you to manage groups:

- Add a new group
- Remove a group
- Edit a group

Setting Group Permissions

Once you have created user accounts for RealShot Manager and have enabled permissions, it is possible to specify which users or groups of users have the right to monitor and control the devices in a Group. Permissions are set per Group.

Adding and Editing Groups

Cameras and other devices are organised into groups for ease of management; see Figure 184. All cameras are always members of the default ‘Cameras’ group in addition to other group memberships.

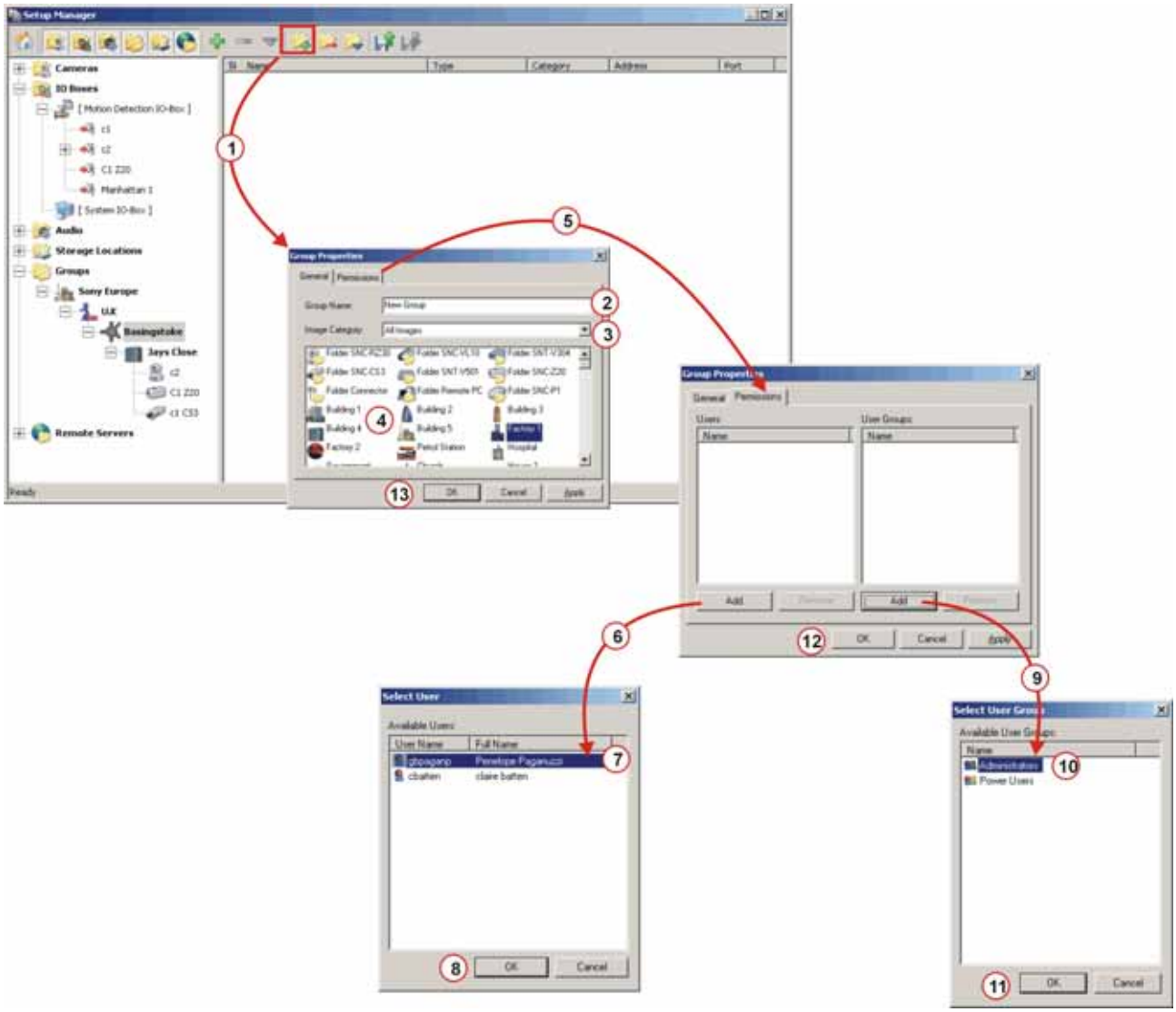


Figure 184 Adding Groups

1) Select on the Setup Manager toolbar. This will only be available if the ‘Groups partition is visible and selected in the left hand pane.
2) Enter a name for the group; this should be a name that describes the common property of cameras in the group, e.g. U.K Offices, SNC-RZ30 Cameras etc.
3) Filter the list of icons for the group by using the ‘Image Category’ drop-down list.
4) Select an icon for the group; this icon is for display purposes only.

5) Select the 'Permissions' tab to set up the permissions required by users to access and modify member devices of this group.
6) Select 'Add...' from the 'Users' area to select a single User.
7) Select a user from the list of 'Available Users:'.
8) Select OK to continue.
9) Select 'Add...' from the 'User Groups' area to select a group of users.
10) Select a group from the list of 'Available User Groups:'.
11) Select OK to continue.
12) When you have added all the users and groups requiring access to this device Group. Select OK to register the new group.
13) Alternatively after step (4) above, select OK immediately to create a Group with default permissions.

To edit an existing group, either double click on the group name or select it and select .

To remove a group from the tree, select the group and .

Moving Groups in the Tree Structure

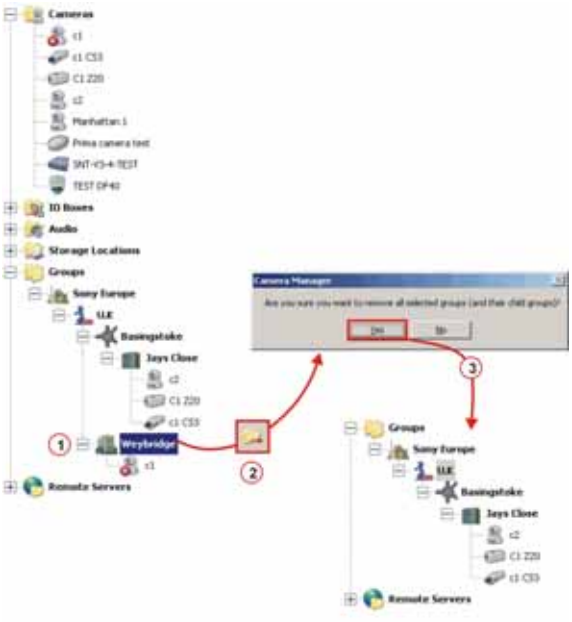
Groups can be moved within the tree structure by selecting the group icon and dragging and dropping one group into another group, thus making it a sub-group. Sub-groups can also be 'pulled out' of a group and promoted in the hierarchy.

Adding Devices to a Group

When you add any device using the Setup Manager it is assigned to its generic device group, e.g. cameras are added to the 'Cameras' group by default. Devices may also be made members of other groups by dragging and dropping them from their generic device group to the new Group. Devices can be added to multiple Groups. All devices still remain members of their generic device group.

Removing a Group

The procedure for removing a group from the device tree is shown in Figure 185.



1) Select the Group in the tree pane of Setup.
2) Select the Delete Group(s) icon from the Setup Manger toolbar.
3) Select Yes to confirm you wish to delete the Group.
4) Check that the Group and all subgroups are removed from the left had tree.

Note: Any devices allocated to the deleted group that are not members of any other group are also deleted. To keep the devices, remove them from the group before deleting it.

Figure 185 Removing a Device Group

Managing I/O Boxes

The Setup Manager is used to configure the input (sensor) and output (alarm) connections that are available on the Sony IP cameras. The inputs are typically used to trigger automatic alarm recordings on the RealShot Manager PC. The outputs may be triggered manually from the RealShot Manager GUI or automatically in response to an input alarm.

As an example, the outputs could be used to trigger alarm sirens or to open doors. For details of how to use trigger camera outputs manually, see' The Output Control Toolbar' on page 33. For details on how to trigger events based on a change of state at a camera input, see 'Alarm Recording Parameters' on page 61.

When a new I/O box is created from a camera, it is based on a template corresponding to a type of camera. Each type of camera (I/O box) has different numbers of inputs and outputs.

Camera Type	Inputs	Outputs
SNC-RZ30	3	2
SNC-VL10	1	2
SNT-V304	4	1
SNC-Z20	1	2
SNC-CS3	1	2

Table 9: Camera Inputs and Outputs by Model

An input of the SNC-RZ30 can be enabled as the result of activity detection. Refer to the relevant camera installation manual for details about connections to the sensor inputs and alarm outputs.

A BarioNet I/O box can also be added which is a pure I/O box with 8 inputs and 6 outputs.

Rules can be set in the Action Editor that trigger actions when a change of state is detected of a combination of camera inputs, for details of how to set up these rules, see 'The Action Editor' on page 153.

> Note: A special I/O box is added to the device list when Motion Detection configurations are added to a camera, this box is called the 'Motion Detection I/O box'. It is different to all the other types of I/O box in that pins are automatically added to it or removed from it as the Motion Detection configurations for cameras are edited.

Adding a New I/O Box

An I/O box represents the status inputs that can be monitored by the RealShot Manager application and the outputs that can be triggered. These inputs and outputs could be part of a camera or fed into a camera from an external source. A new I/O box can be added in one of two ways:

- Selecting the 'Add Device' icon from the Setup Manager toolbar
- Dragging a camera with an internal I/O box from the 'Cameras' partition to the 'IO Boxes'

For details of how to configure a new I/O box that is part of a camera, see Figure 186.

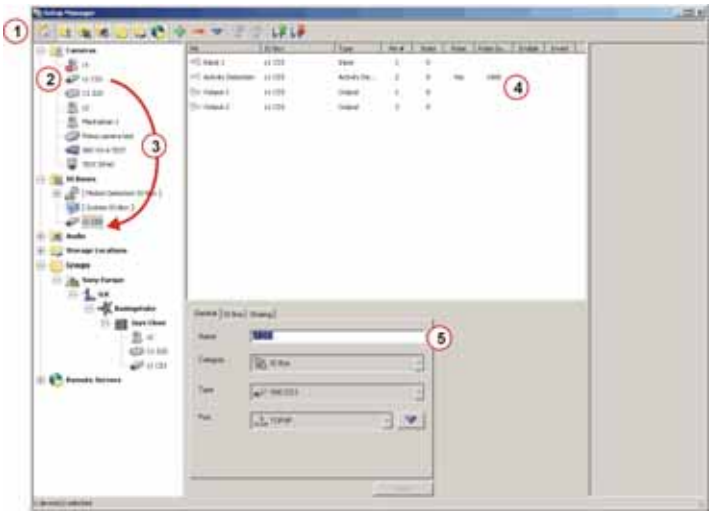


Figure 186 I/O Box Setup by Drag & Drop

1) Select the 'View IO Box' icon from the Setup Manager toolbar.
2) Select a camera that has an internal IO box.
3) Drag the camera into the 'IO Boxes' partition.
4) Double click on the new entry and
5) enter a different name for the I/O box if you wish. (Select Apply to save).

Note: To complete the setup of the I/O Box, complete the details of the pins. See 'Adding Pin Details' on page 143.

Deleting an I/O Box

See 'Deleting Devices' on page 114.

Editing an I/O Box

The details associated with an entry for an I/O box must be modified if any of the connections with the required triggers change. See Figure 187.

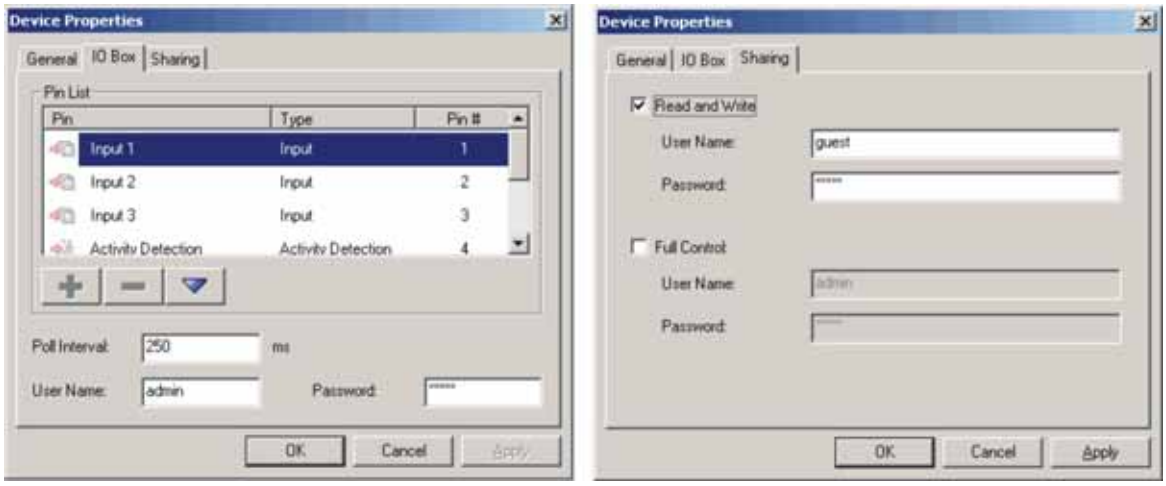


Figure 187 I/O Box Properties

Select the I/O box you want to edit from the 'IO Boxes' partition in the device tree of the Setup Manager, see Figure 157. You can edit the details in the right-hand pane or double-click on the I/O Box name in the device tree to open the Device Properties dialog for the I/O Box.

Modify the properties of the I/O box using the three tabs as required:

- General
- IO Box
- Sharing

See the following sections for details.

Adding Pin Details

Each input and output can be enabled separately and the signal properties defined. Open the I/O box details for editing as described in the previous section and then make the changes you require, see Figure 188.

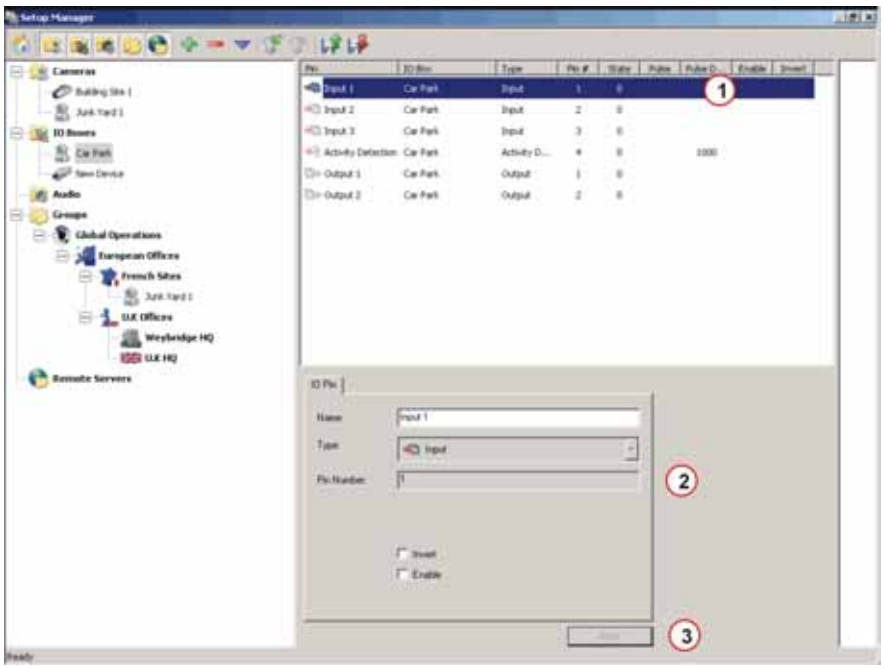


Figure 188 Setting Pin Details

1) The Pin List, see Figure 188, displays the input and output pins available on the selected I/O box. If an entry is greyed out this indicates that the pin is not active. Select an Input or an Output pin to open the properties window for that connector. You can also double-click on an entry in the Pin List to open the Pin Properties dialog.

2) Set the properties for the connector:

Output	**Input**
3) You can modify the name of this output by editing the 'Name:' field. Choose a name that describes the function of the output, e.g. LockDoor3. 4) If the output pin on the camera is capable of producing a pulse then the 'Pulse' check box will be available. Enable the check box and enter a duration for the pulse to be produced when the output is triggered. Refer to the camera and sensor manuals for signal requirements. 5) Enable the 'Invert' check-box to invert the sense of the pulse, e.g. from low to high instead of from high to low. 6) Enable this output for triggering by marking the 'Enable check box'	3) You can modify the name of this input by editing the 'Name:' field. Choose a name that describes the sensor that triggers the input, e.g. LabMovement. 4) Set the characteristics of the signal that will trigger this input. If a pulse is expected then enable the 'Pulse' check box and set the duration (ms). Refer to the camera and sensor manuals for signal requirements. 5) Enable the 'Invert' check-box to invert the sense of the expected pulse, e.g. from low to high instead of from high to low. 6) Set the 'Enable' check box to enable monitoring of signals on this input pin.

For details of Activity Detection pins see 'Assigning an I/O Box Pin to a Camera' on page 144.

7) Select Apply to save your changes.

Assigning an I/O Box Pin to a Camera

To be able to use the pins in an I/O box you must they must be associated with a camera. You must allocate a camera to each individual pin or to the I/O box as a whole. You can drag a camera over an existing pin in the device tree to form an association but to make an association between a camera and all the pins in an I/O box you must use the 'Assign Camera' button on the Setup Manager toolbar. For both internal and external I/O boxes the process would be as shown in Figure 189.

1) Select an I/O pin in the I/O box list pane.
2) Select the 'Assign Camera(s) icon from the Setup Manager toolbar. If no cameras are associated with a pin, then enabling the input pin does not result in any action.
3) If any cameras are selected then enabling of the input pin triggers any related action for all the selected cameras, use shift + click to select multiple cameras.
4) Select OK to save your changes

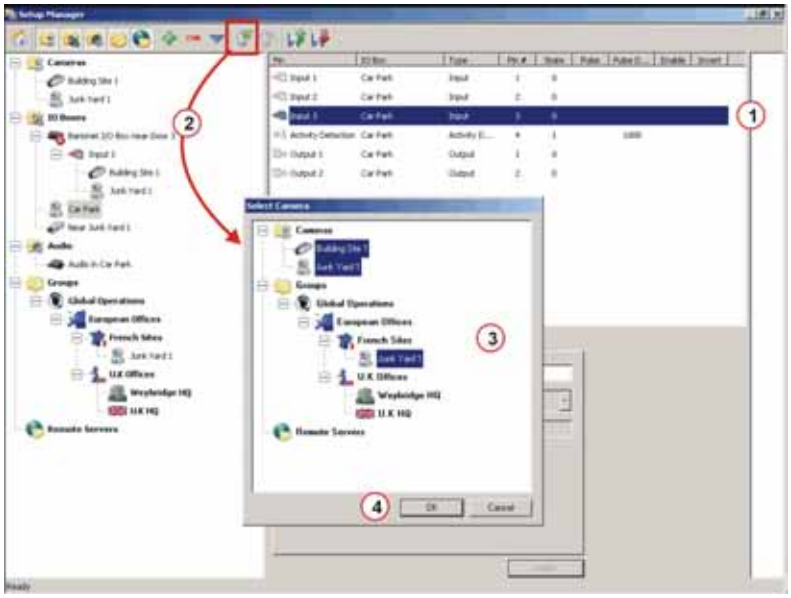


Figure 189 Linking I/O Pins with a Camera

For an output, this link enables you to trigger the output manually using the 'Output Control' toolbar. For an input it allows you to schedule alarm recordings and other events based on the triggering of the input by the attached sensor.

Details of how to trigger events based on a camera input and how to trigger camera outputs manually are given in the following sections in the User Guide: 'Alarm Recording Parameters' on page 61 and 'The Output Control Toolbar' on page 33.

Activity Detection

When you have added an SNC-RZ30 IO box to the IO Manager, an Activity Detection (AD) pin appears in the list of inputs. This pin can be used as a normal input pin (NO activity = 0, activity = 1), with the differences that its state depends on the activity detection information received from the camera.

Figure 190 Activity Detection Pin

When double clicking on the Activity Detection pin, see Figure 190, its properties are displayed. An extra activity detection tab is available, where you can set up the threshold, sensitivity and the area of the image where activity must be measured.

1) Select an Activity Detection pin in the Setup Manager
2) Give it a name based on the activity it will detect.
3) Set the characteristics of the signal that will trigger this input. If a pulse is expected then enable the 'Pulse' check box and set the duration (ms). Refer to the camera and sensor manuals for signal requirements.
4) Enable the 'Invert' check-box to invert the sense of the expected pulse, e.g. from low to high instead of from high to low.
5) Set the 'Enable' check box to enable monitoring of signals on this activity pin.
6) Select the 'Activity Detection' tab to enter details of the sensitivity and target area:
7) Threshold. For the RZ30: the default/typical value is 104. The value must lie between 0 and 255.
8) Sensitivity – The sensitivity level, lies between 0 and 8, a typical value is 4.
9) Activity Area - the area where activity must be measured. Select 'Set Activity Detection Area' to open the 'Activity Detection Area' window.
10) The activity detection area can be set by either:
    - Dragging the red box to separate a new section of the image. The area can also be resized by dragging the sides. The bar on the right will indicate the level of activity, the larger the green segment, the higher the level of activity.
    - By entering the value manually in the edit box as a pixel range.

- With the preset combo box you can select a predefined camera preset to set the area. If there are no presets currently defined for the camera, then this box will be empty.

11) Select Close to remove the 'Activity Detection Area' window.

12) Select Apply to save your changes.

13) Alternatively, select Apply from the IO Pin tab to exit after step (5).

Audio Pins

When configuring a Sony SNC-P1 camera, it is possible to set up an audio pin, see Figure 191 and Figure 192. The audio pin is treated as an extra output pin for the camera but is associated with an audio file. The audio pin can then be configured as the output pin for an action. For example, a recorded message can be played if an alarmed door is opened. See the section 'The Action Editor' on page 153 for details of how to configure an action to allow the triggering of an input pin to result in the activation of an output pin.

Playing of the audio file can also be triggered manually using the output toolbar, see 'Output control' on page 47. The camera must be associated with the correct audio pin, see 'Assigning an I/O Box Pin to a Camera' on page 144.

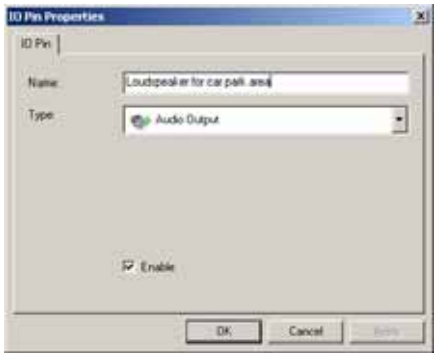


Figure 191 Audio Pin

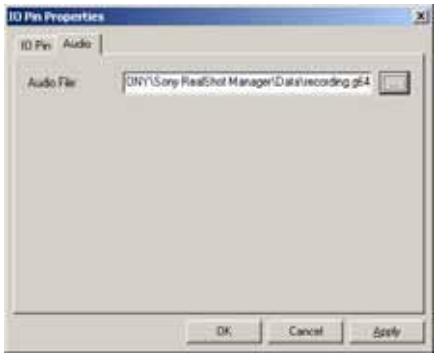


Figure 192 Audio File Selection

The Motion Detecion I/O Box

The motion detection I/O Box allows virtual motion detection pins to be associated with each Motion detection camera configuration. For details of how to set up Motion Detection camera configurations, see 'Motion Detection' on page 123.

- The motion detection pin will be automatically be added or removed from the Motion Detection IO-Box when configurations are added or removed from the camera. It is not possible to add pins manually (rather like the system io box)
- The Motion Detection IO-Box will only be visible when at least one configuration is added to a camera
- The motion detection pin can be set up and used like all other pins, for example it can be used as an input trigger for 'actions', see The Action Editor on page 153.
- The default camera i.e the one that the configuration belongs to is assigned to the motion delection pin automatically. To assign other camera(s) to the pin that should be triggered in case of alarm recording, follow the steps shown in Figure 193.

1) Select the Motion Detection IO Box from the device tree in the Setup Manager.

2) Select the required motion detection pin.

3) Click on the Assign Camera button to open the Select Camera dialog.

4) Select a Camera and click on OK to assign the camera to the pin.

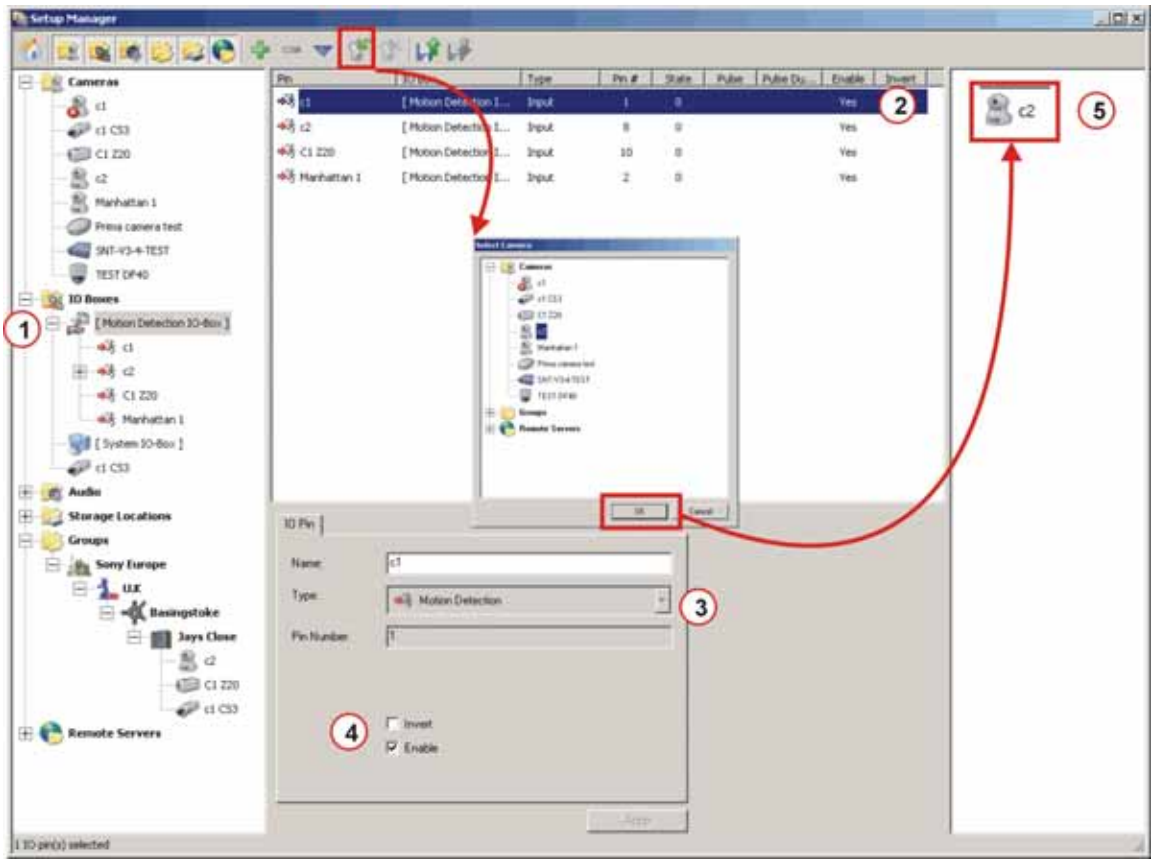


Figure 193 The Motion Detection IO Box

Managing Audio Devices

The Setup Manager allows you to configure audio recording devices on the network and associate each of them with one or more cameras for recording. When recordings are triggered for cameras with an associated audio device, audio data is recorded as well as video and the audio files are stored, see ‘Assigning Cameras to an Audio Device’ on page 149. The playback and monitoring of the audio is controlled through the ‘Audio Toolbar’ see ‘Monitoring Audio' on page 79. To monitor audio with MP3, an MP3 decoder is required such as the one installed with Windows Media Player. If one is not already installed, then the decoder supplied on the installation disk should be used.

Adding an Audio Device

The procedure for adding an audio device is a variation on the generic procedure for adding any device, see ‘Adding a Device’ on page 113.

It can be summarised as:

1) Create a new Audio Device in the Setup Manager device tree.
2) Associate one or more cameras to the new audio device.
3) To monitor audio ‘live’, select a monitor window with at least one assigned camera. Select (pressed in) Toggle Audio = ON (the right-hand button in the Audio toolbar), the speaker icon is not muted and Links Audio to Cameras = ON (the left-hand button in the Audio Toolbar). If multiple cameras are assigned to the monitor window you will only hear the audio associated with cameras that have been configured to have an association with an audio device. If multiple audio sources have been assigned to one camera you will hear the first one in the list, if you need to listen to a different audio source then you need to switch off ‘Links Audio to Cameras’ and select the preferred audio source.

4) Recordings will automatically create associated audio files (.aud). When playing back recordings, ensure that the audio filter button is disabled and select Toggle Audio = ON (the right-hand button in the Audio toolbar), the speaker icon is not muted.

5) To change the audio device for playback, select Links Audio to Cameras = OFF (the left-hand button in the Audio Toolbar is popped out) and use the drop-down list in the Audio toolbar to select another audio device. Reselect Links audio to Cameras = ON (the left-hand button in the Audio Toolbar).

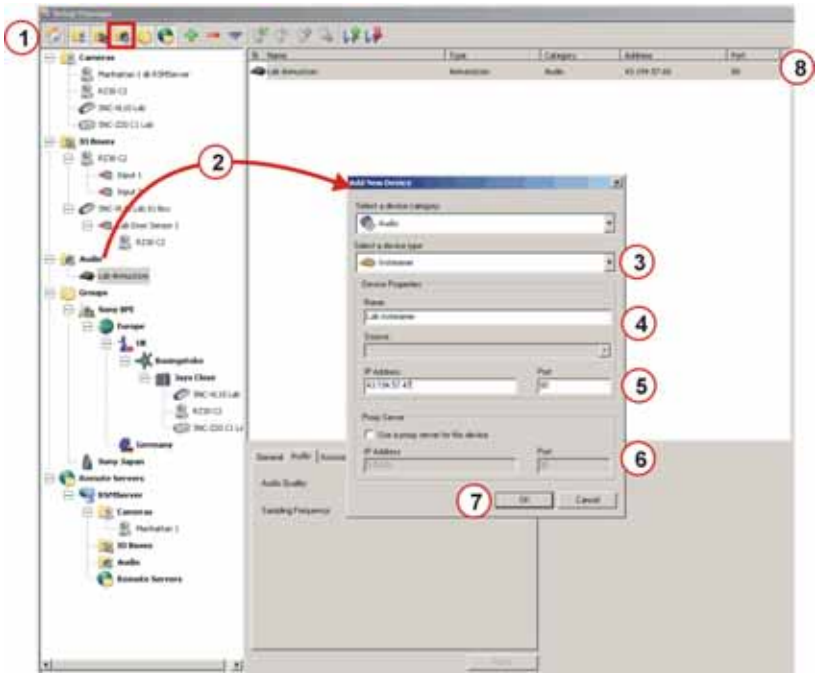


Figure 194 Adding an Audio Device

1) To add a new audio device, ensure that the 'View Audio Section' icon on the Setup Manager toolbar is activated so that the Audio device partition is visible in the device tree.

2) Select from the Setup Manager toolbar.

3) Currently only the following models of network audio devices are supported – The MPEG 4 cameras, SNC-P1 and SNC-DF40, the Barix Instreamer and the Barix Annuncicom. Select one of these types from the 'Select a device type:' drop-down box.

4) Give the audio device a name based on the audio that it records.

5) Set the I/P details as described in 'TCP/IP Settings' on page 114.

6) Set the proxy server details if required.

7) Select OK to register the new audio device.

To configure the device, associate it with one or more cameras and setup the storage locations and audio characteristics, see the following sections:

- Assigning Cameras to an Audio Device
- Configuring and Modifying Audio Devices

Note: The following procedure is an example of preparation of an Annuncicom Audio Box.

1) Set-up the Annuncicom box on the network using the 'arp' command to set the IP address.

2) Upgrade the Annuncicom firmware - this is available from the Sony Product Server site - version 1.3 worked. Subsequent versions from Barix may work but have not been tested.

3) In the Annuncicom web interface:
   - Set the streaming mode to stream always.
   - Set the stream to 'configured destination'.
   - Set the first configured destination as Raw TCP and give the IP address of the RealShot Manager Server, specify port 80.

4) In RealShot Manger:
   - Add the Annuncicom device in the Setup Manager – Specify the IP address of the Annuncicom and port 80.
   - Associate the Annuncicom with a camera - double click the Annuncicom entry in the Setup Manager and select at least one camera in the 'Associated Cameras' tab.
   - View the output form this camera in monitor window and start a manual record. Check that a '.aud' file is produced in the Annuncicom folder and that it can be played out using the cam file player.

Assigning Cameras to an Audio Device

In order to assign the audio device for use with one or more cameras:

1) Select from the Setup Manager toolbar. Select one or more cameras from the cameras list. To select multiple cameras at the same time, hold down the shift key and click on additional cameras.

2) Select OK to complete the association.

3) To remove the associate between an audio device and one or more cameras, select the camera(s) to be removed from the list in the very right-hand pane and then select from the Audio Manager toolbar.

You can also use the editable list available from the 'Associated Cameras' tab of the audio device properties, see 'Associated Cameras' on page 151.

> Note: If you are adding a SNC-P1 or SNC-DF40 model camera as an audio device then a link still needs to be made with the same camera's entry from the Cameras list. Drag the camera down and drop it on the audio device entry to form the link. The two device entries must share the same IP address.

Removing an Audio Device

Removing an audio device follows the procedure described in 'Deleting Devices' on page 114. Select an audio device in the device tree pane and then select the icon from the Setup Manager toolbar.

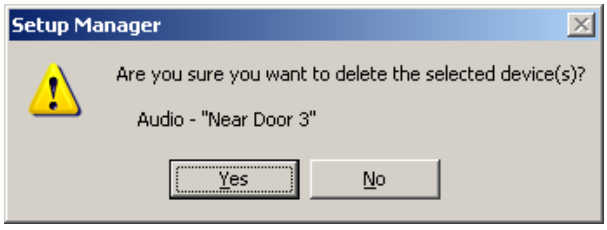


Figure 195 Removing an Audio Device

Confirm the deletion. The device is removed from the list of available audio devices.

Configuring and Modifying Audio Devices

To modify the details of an audio device, open the Setup Manager and select the device from the tree list in the left hand pane, see ‘Understanding the Device/Group List‘ on page 112. The Device Properties window has the following tabs that allow you to modify different aspects of the audio device configuration:

- General – Allows you to modify the name and network connection details.
- Audio – Allows you to modify the compression system and sampling rate of audio digitisation.
- Associated Cameras – Allows you to modify the list of cameras that have this audio device associated.
- Storage Locations – Allows you to modify where the audio files are stored.

Audio

To set the audio characteristics of the device, double click on the audio device entry in the device tree of the Setup Manager and perform the following:

1) Select the ‘Audio tab’ of the ‘Device Properties’ as shown in Figure 196.
2) Select an ‘Audio Quality’ setting from 0 to 8.
3) Select the ‘Sampling Frequency’ from the drop-down list of MPEG-1 and MPEG-2 options at various frequencies. A sampling frequency of 44.1 or 48kHz gives very high quality audio at CD quality. Lower values give reduced audio quality but gain the advantage that the audio files take up correspondingly less storage space.
4) Select Apply to save the changes, OK to exit saving the changes or Cancel to exit without saving the changes.

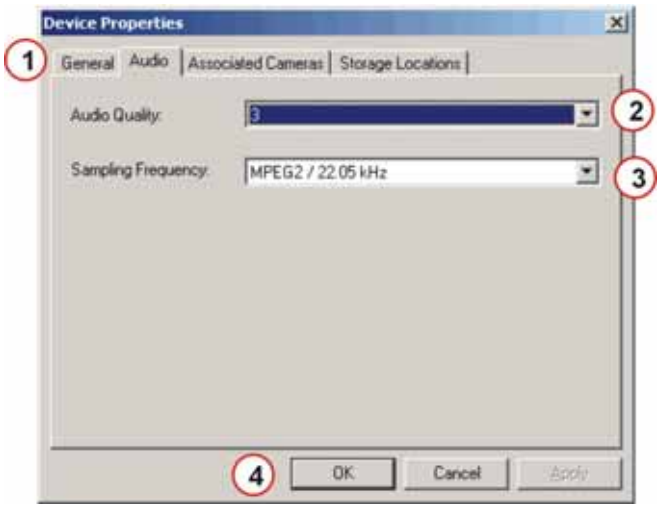


Figure 196 Audio Settings

The SNC-P1 supports slightly different options to the other audio devices, see Figure 197.

- Audio Quality – The SNC-P1 supports the G711 audio standard (64kbps) and the G726 standard (16/24/32/40 kbps). Select a suitable audio quality level between the highest option: G711 and the lowest option: G726 at 16kbps. If you require normal speech to be audible then a value of 40kbps or 64kbps is recommended.
- Sampling Frequency: This is fixed for the SNC-P1 at 8kHz.
- User Name and Password: These values will be used to authenticate your right to change the audio settings at the camera. Please check with your local camera administrator if you do not know the values to use.

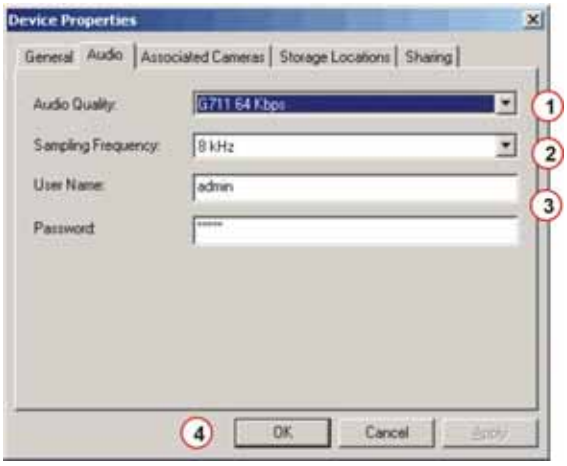


Figure 197 Configuring the SNC-P1 as an Audio Device

Associated Cameras

A camera requires an association with an audio device so the audio files recorded can be synchronised with the related video. There are two ways to modify the audio settings associated with an Audio Device, the use of the Setup Manager toolbar to do this is shown in 'Assigning Cameras to an Audio Device' on page 149. The following procedure uses the camera list editor available through the Audio device properties:

Figure 198 Audio Device and Camera Associations

1) Open the 'Device Properties window for the audio device by double-clicking on the audio device in the Setup Manager.
2) Select the 'Associated Cameras' tab.
3) To add a camera, select , select one or more cameras from the pop-up camera list and then OK.
4) To remove a camera or cameras, select them from the listed cameras and then select
5) Select Apply to save the changes, OK to exit saving the changes or Cancel to exit without saving the changes.

To modify the order in which the cameras appear in the 'Associated Cameras list, use the up and down arrows.

Setting Storage Locations for an audio device

The audio files created by the Audio Devices during recording are stored on preferred storage locations as set through the Setup Manager. To modify the allocation of the audio files amongst the available storage locations, proceed as follows:

1) Double click on an audio device in the Setup Manager device tree to open the device details. Move to the 'Storage Locations' tab of the 'Device Properties' as shown in Figure 199.
2) To add a new storage location, select .
3) Select a new storage location to add to the list.
4) Select the type of recordings to be stored at this location.
5) Select OK.
6) Select Apply.
7) To remove a storage location, select it from the list and select .
8) To edit the details of a storage location, select .
9) To promote or demote a storage location in the list of associated units, select to promote the unit or to demote the unit by one position in the list.

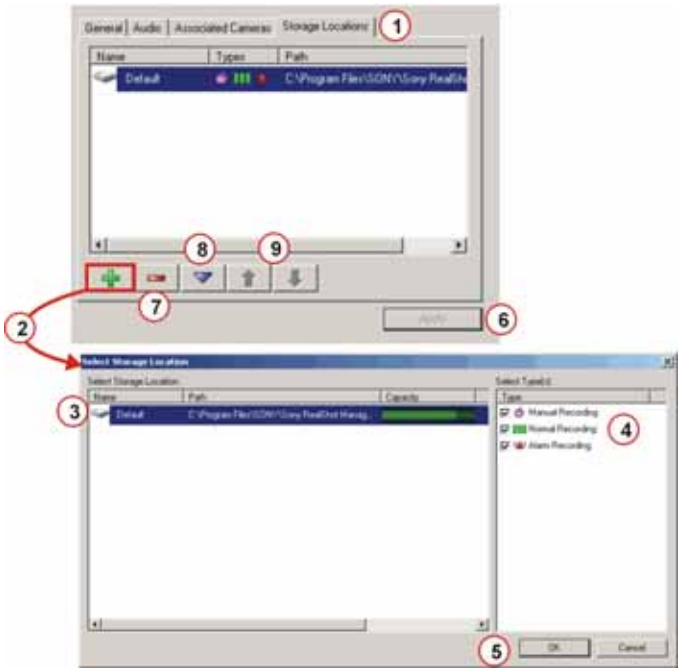


Figure 199 Setting Audio Storage Locations

Importing and Exporting Device Configurations

The device settings that are created and modified using the Setup Manager dialog are stored in a Microsoft Access database. If you have a system with several PCs running the RealShot Manager application it is useful to be able to transfer the settings between them. The device details in the local database can be saved (exported) as a file and then loaded (imported) into the database on another PC.

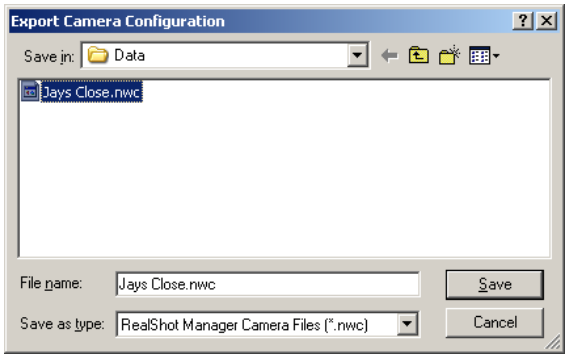


Figure 200 Exporting Camera Configuration

Exporting

1) Select the 'File Export' icon on the Setup Manager toolbar and browse for a folder in which to store the file.
2) Enter a name for the file and select Save. Details of the devices configured through the Setup Manager are saved as a file in the selected folder.

Note: You can export any kind of device details; Cameras, IO Boxes and Audio Boxes. You can also export Remote Server configurations.

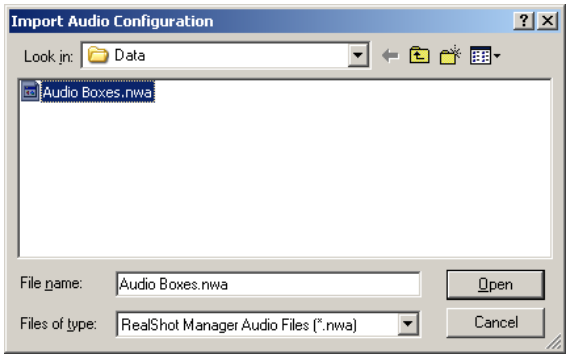


Figure 201 Importing Audio Box Configuration

Importing

1) Click on the 'File Import' icon on the Setup Manager toolbar.
2) Browse for a device settings file to import, select it and then select Open. Details of cameras from the file are added to the selected group.

Note: You can import any kind of device details; Cameras, IO Boxes and Audio Boxes. You can also import Remote Server and Group configurations.

The Action Editor

The Action Editor, see Figure 202, allows you to specify rules for the behaviour of RealShot Manager on detection of a change in equipment status, each rule has the following characteristics:

- A trigger – a change in state at one or more input pins of an IO Box.
- An AND function is used to determine if the trigger has been activated – e.g. when you select 3 input pins as the trigger for the action, the state of all 3 these 3 pins must be '0' simultaneously to activate the action. To create an OR function you have to specify a separate rule for each input pin.
- An associated list of one or more actions to be performed when the trigger becomes active. See Defining the Actions for a Rule on page 156.

Editing Rules

The Action Editor, see Figure 202, allows you to create and modify rules:

- Add – Allows you to create a new rule and specify the triggers. See Adding a New Rule on page 154.

Select an existing rule to activate the remaining edit functions:

- Copy – Creates a copy of the selected rule called 'Copy of <Rule Name>'.
- Remove - Deletes the selected rule, you will be asked to confirm this action.
- Properties... - Displays the properties of the selected rule and allows you to modify them.

Adding a New Rule

To add a new Rule to the Action Editor, perform the following steps:

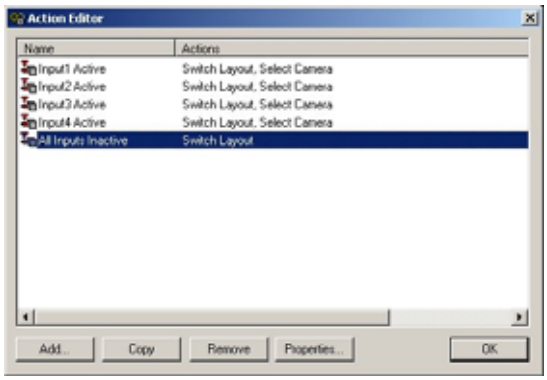


Figure 202 The Action Editor

1) Open the 'Action Editor' by selecting the icon from the Main Toolbar.
2) Select Add...; see Figure 202. The 'New Rule' dialog is displayed. See
3) Defining the Trigger for a Rule on page 154. Enter a name for your new rule.
4) Enable the trigger using the 'Enable' check box.
5) Select Properties... to specify the input pins to trigger the rule. See
6) Defining the Trigger for a Rule on page 154.
7) Select the 'Action' tab, add one or more actions and set the properties for each one. See 'Defining the Actions for a Rule' on page 156.

Defining the Trigger for a Rule

During the adding of a new rule or editing of an existing rule, you can set one or more triggers that initiate the actions associated with the rule.

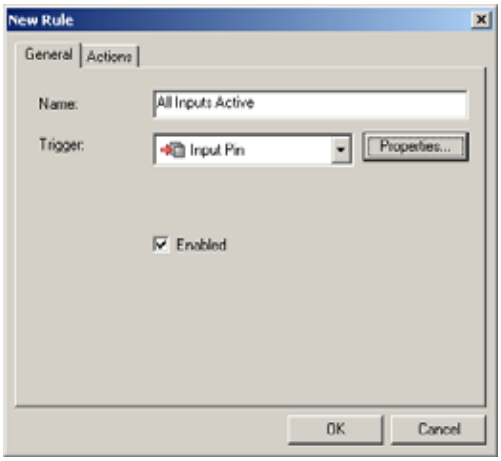


Figure 203 Rule Trigger

In the Rule Properties - General Tab, see Figure 203, modify the following to set up your rule and its trigger:

- 'Name:' - The name/description of the rule
- 'Trigger:' - A list of available trigger types, currently restricted to 'Input Pin'. Select Properties... to view the properties of the selected trigger, see 'Input Pin Trigger Properties' on page 155, (a short summary of the trigger settings is shown below the 'Trigger:' box)
- 'Enabled' – Check this box to enable the rule, clear this box to disable the rule.

Input Pin Trigger Properties

This procedure allows you to select the camera inputs that will trigger this rule. See Figure 204:

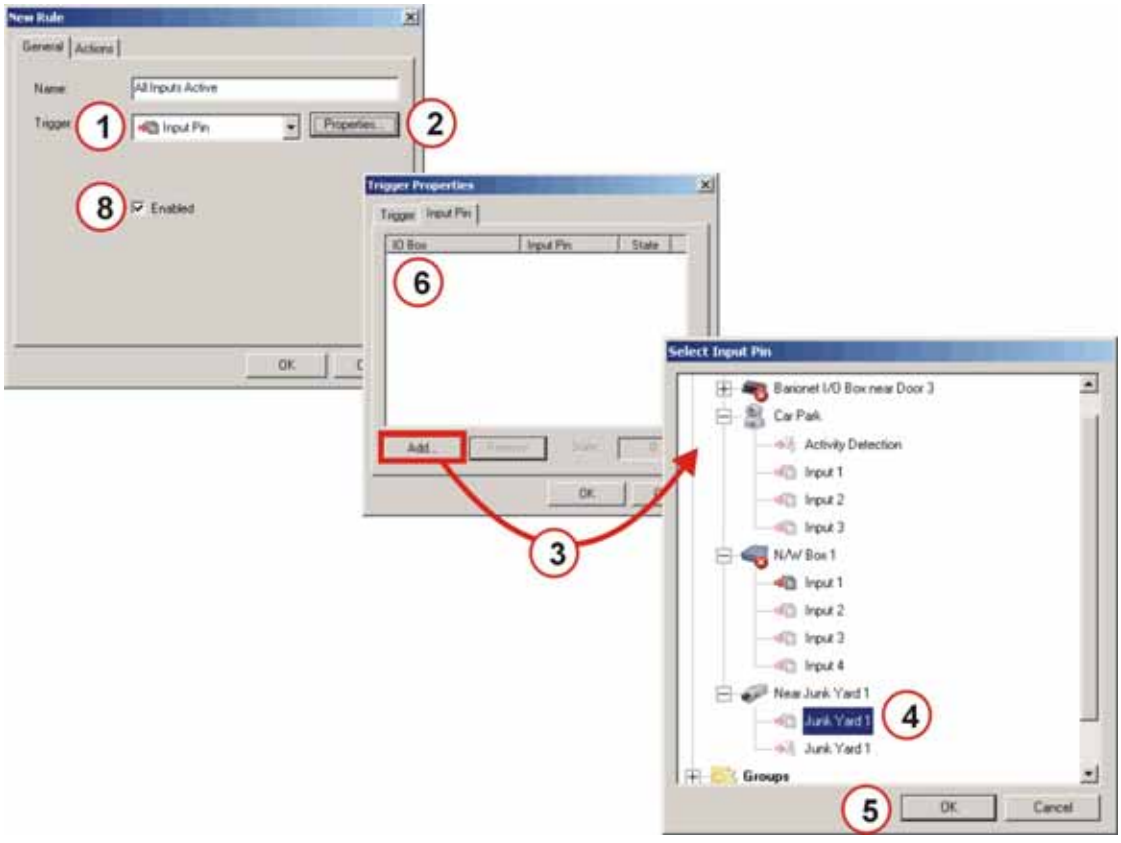


Figure 204 Selecting Input Pins for Trigger

1) Select Trigger type 'Input Pin' from the drop-down list.
2) Select Properties....
3) Select Add....
4) Select an Input Pin from the displayed list of available input pins. These must have previously been configured using the I/O Manager.
5) Select OK to confirm addition of the pin or Cancel to leave the dialog without saving.

6) If you selected OK, the pin will now appear in the list. See Figure 205. Repeat the Add... until you have added all of the pins that you want to trigger this rule.

7) Select OK to save the allocated pins.

8) Ensure that the rule is activated by selecting the 'Enabled' check box'

9) Select OK to save the Trigger Properties or Cancel to exit without saving them.

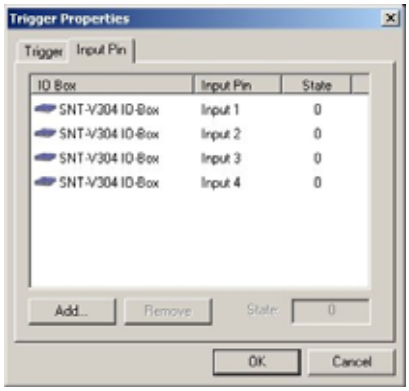


Figure 205 Input Pins Selected for a Trigger

Defining the Actions for a Rule

To define the actions for a rule open the 'Actions tab' of the 'Rule Properties' window. See Figure 206. Select Add... and select the type of Action you require from the drop-down list. The tabs available in the 'Action Properties' window will differ depending on the Action that you have selected. Use the available tabs to specify the properties of the Action.

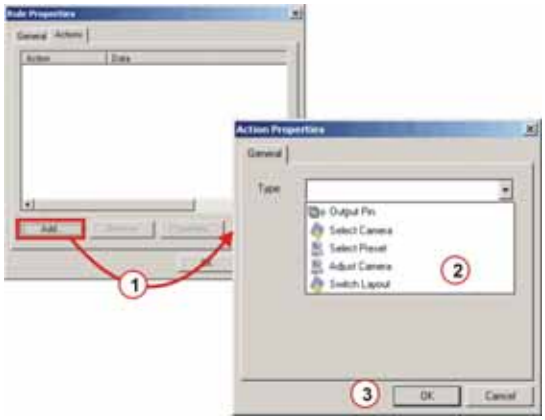


Figure 206 Action Types

1) Select Add... to add further Actions to the rule as required. See the following sections on each individual action type for the setup required for each action.

2) The action types available are:

- Output Pin - change the state of one or more output pins
- Select Camera - select camera(s) in a monitor (only hotspot at the moment)
- Select Preset - set the preset of camera(s)
- Adjust Camera - change the default camera settings (interval, resolution, quality, colour level)
- Switch Layout - switch to a specific layout

3) Select OK to save your changes.

Adjust Camera

When the action type is specified as 'Adjust Camera', two additional tabs are displayed:

1) Cameras tab – Allows you to build a list of cameras.

2) Adjust Camera tab – Allows you to specify the adjustment to be made to the cameras listed in the 'Cameras' tab.

Cameras Tab

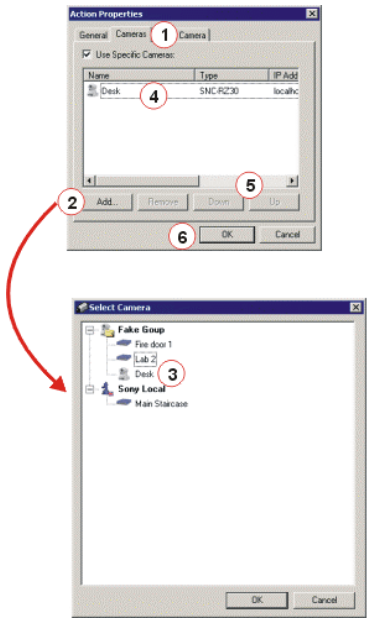


Figure 207 Building a Camera List

The 'Cameras' tab is used to build a list of cameras that will be affected by the action:

1) Enable the 'Use Specific Cameras' check-box.
2) Select Add....
3) Select a camera and OK to confirm or Cancel to exit without saving. If you select OK in step 3, then check that the camera is added to the list
4) Repeat steps 2 and 3 to build the list of cameras.
5) Use the following edit buttons to modify the list:

- Remove – Deletes a selected camera from the list
- Down - Moves a camera one place down in the list
- Up - Moves a camera one place up in the list

6) Select OK to save the new list and Cancel to exit without saving the list.

Note: The Cameras tab is displayed during the se tup of several types of action that use cameras i.e. Adjust Camera, Select Camera and Select Preset.

Adjust Camera Tab

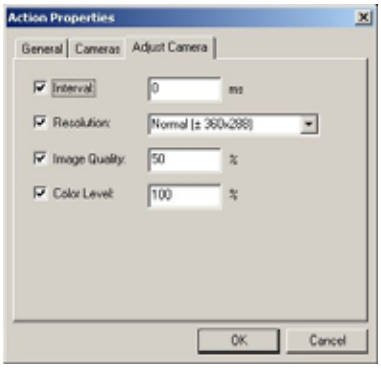


Figure 208 Adjust Camera Action

These settings will be used to set the default values of the camera when the trigger is activated; the actual values still depend on other activities in the schedules running for this camera.

This tab gives you access to the same parameters as the camera properties tab for a camera in the Setup Manager list. The difference is that here you can filter which camera setting you want to adjust.

Enable the check-boxes for all of the settings you want to modify and set the values. For descriptions of the parameters. See 'Camera' on page 121.

Set Output Pin

When the action type is specified as 'Output Pin', only one additional tab is displayed. This is the 'Output Pin' tab. This tab allows you to build a list of camera output pins to be enabled when the trigger is set. See Figure 209.

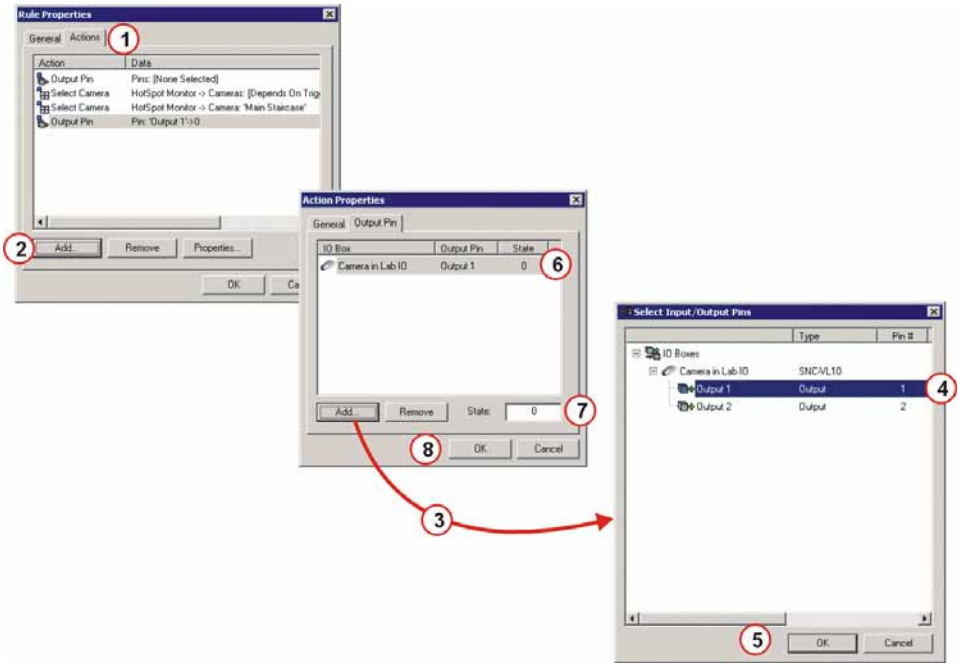


Figure 209 Build an Output Pin List

1) Select the ‘Actions tab’ in the ‘Rule Properties’ window.
2) Select Add... and use the ‘Type:’ drop-down list in the General tab of the ‘Action Properties’ window to select type ‘Output Pin’.
3) Select the ‘Output Pin’ tab and Add....
4) Select an Output pin from the list.
5) Select OK to confirm or Cancel to exit without saving.
6) If you selected OK in step 5 then the Output Pin will appear in the list.
7) Set the ‘State’ to be triggered for each pin (1 or 0)
8) Select OK to confirm the list and Cancel to exit without saving.

Note: Repeat 3) – 5) to add further pins until the list contains all of the output pins that are to be set when the trigger is enabled.

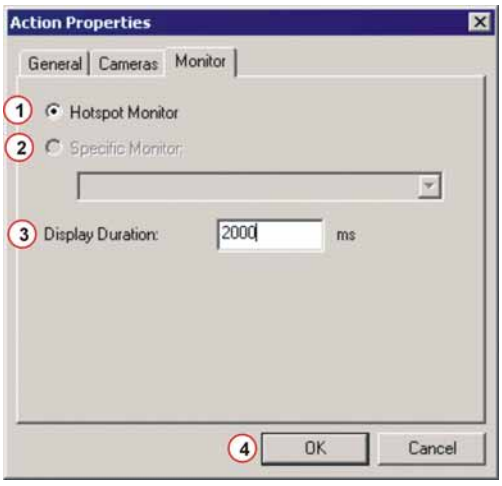
Select Camera(s)

When the action type is specified as ‘Select Camera’, two additional tabs are displayed, these are:

1) Cameras tab – Allows you to build a list of cameras; see Figure 207. This is covered by the section ‘Cameras Tab’ on page 157.
2) Monitor tab – Allows you to specify the monitor to be used for the cameras selected in the ‘Cameras’ tab.

Monitor Tab

This tab allows you to specify which monitor is to be used for monitoring the camera(s) specified in the ‘Cameras’ tab. For details of how to build a list of cameras using the Cameras tab, see ‘Cameras Tab’ on page 157.



1) 'Hotspot Monitor' – Select this option to use the hotspot monitor to view the cameras.
2) 'Specific Monitor' – Select this option to select a specific monitor from the drop-down box below. (This option not available in version 2.0.1.1.)
3) 'Camera Display Duration' – This is the duration in milliseconds for which the image from each multiple cameras is displayed before moving onto the next one in a cycle.
4) Select OK to save your Monitor settings or Cancel to exit without saving them.

Figure 210 Monitor Action

Move Camera(s) to Preset PTZ

When the action type is specified as 'Preset', two additional tabs are displayed.

1) Cameras tab – Allows you to build a list of cameras; see Figure 207. This is covered by the section 'Cameras Tab' on page 157.
2) Preset tab – Allows you to specify a pan and tilt preset position for the selected camera(s) to move to. See below:

Preset Tab

This tab allows you to enter a named preset position for camera pan, tilt and zoom to be adopted when the action is triggered.

1) In the 'Preset' field, enter the name of the preset that must be selected when the trigger is set.

This must match the name of a preset that exists for the each of the listed cameras in the 'Cameras' tab. Any cameras for which the preset does not exist will not be affected by the trigger.

You must manually type in the name of the Preset and it is case sensitive, e.g. if you have a preset 'Door-1' you would have to type in 'Door-1', if you type in 'door-1' then nothing will happen.

2) Select OK to save the preset selection and Cancel to exit without saving it.

For details of how to check or create camera presets. See 'Using Camera Presets' on page 45.

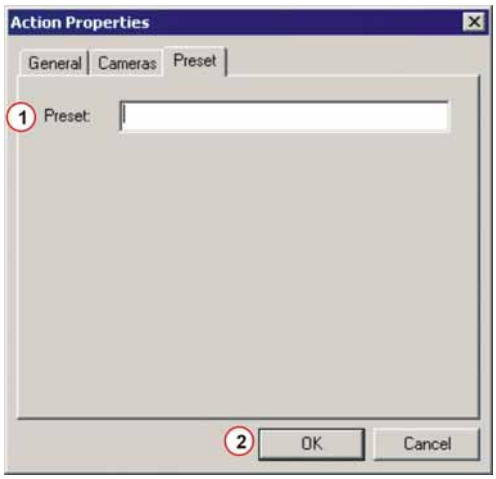


Figure 211 Preset Action

Switch Layout

When the action type is specified as 'Change Layout', an additional tab is displayed i.e. the 'Layout' tab. This tab allows you to select the monitor window layout to switch to when the trigger is set. See Figure 212.

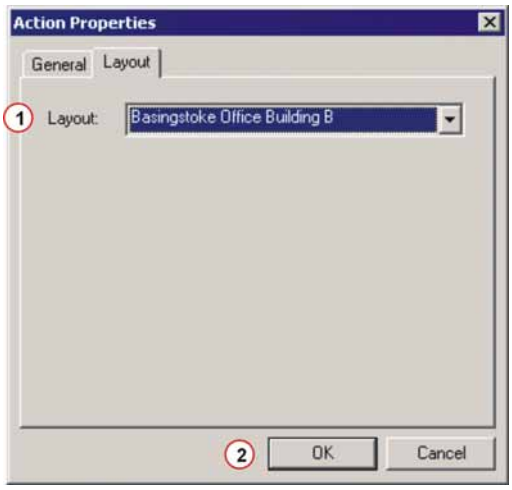


Figure 212 Change Layout Action

1) The drop-down box to specify the layout is the same as the one that appears on the main toolbar. See ‘Selecting a Monitoring Layout’ on page 35.
2) Select OK to save your selection.

Housekeeping

Database Operations

All of the camera settings are stored in a database, when you close the Setup Manager dialog any changes that you have made are applied to the entries in the database. If you close the RealShot Manager application and reopen it your changes are reloaded from the database, i.e. they are saved.

To Cleanup the Database

Use the Cleanup Job functionality of the schedule editor to ensure that old recordings are deleted regularly. See ‘Cleanup Events’ on page 54 of the User Guide.

Layout Editor

The layout editor is used to create or modify camera monitoring layouts. It is possible to create many different layouts for use in RealShot Manager.

For all layout editing operations it is important to ensure that the layout edit mode is enabled, to do this select the ‘Edit Mode’ icon from the Layout Editor toolbar. This will enable the other tools in the toolbar.

Layout Editor Tools

The Layout Editor toolbar provides the tools necessary for creating and modifying monitor layouts:

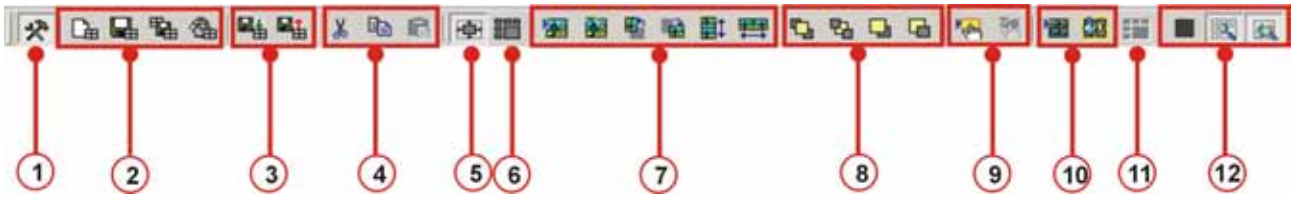


Figure 213 Layout Editor Toolbar

1) Edit Mode – Enables and disables layout editing. See Figure 213.

2) Layout database operations:

- Creates a new layout.
- Saves the current layout.
- Saves a copy of the current layout with a new Layout filename.
- Deletes the current layout.

3) Layout import and export operations:

- Import layout data from a file.
- Export layout data to a file.

4) Object editing tools:

- Cut an object.
- Copy an object
- Paste an object.

5) Layout Scaling Mode - enables and disables scaling of objects in the monitor window.

6) Create Layout - opens a dialog to create a camera monitor layout.

7) Image editing tools:

8)
- Insert an image.
- Edit an image.
- Rotate an image anti-clockwise.
- Rotate an image clockwise.
- Mirror an image vertically.
- Mirror an image horizontally.

9) Image Z-order editing tools:

- Move an image in front of all other images.
- Move an image behind all other images.
- Move an image up one level in z-order.
- Move an image down one level in z-order.

10) Action editing tools:

- Insert an action.
- Edit an action.

11) Background editing tools:

- Insert or edit a background image.
- Edit the background colour.

12) Set As Hotspot - sets a camera monitor as a hotspot monitor.

13) Layout editor view tools:

- Grid settings.
- Show or hide camera monitors.
- Show or hide images.

Enabling the Layout Editor Toolbar

The Layout Editor allows you to design monitor placement schemes and specify backgrounds for the monitor window, to carry out the following:

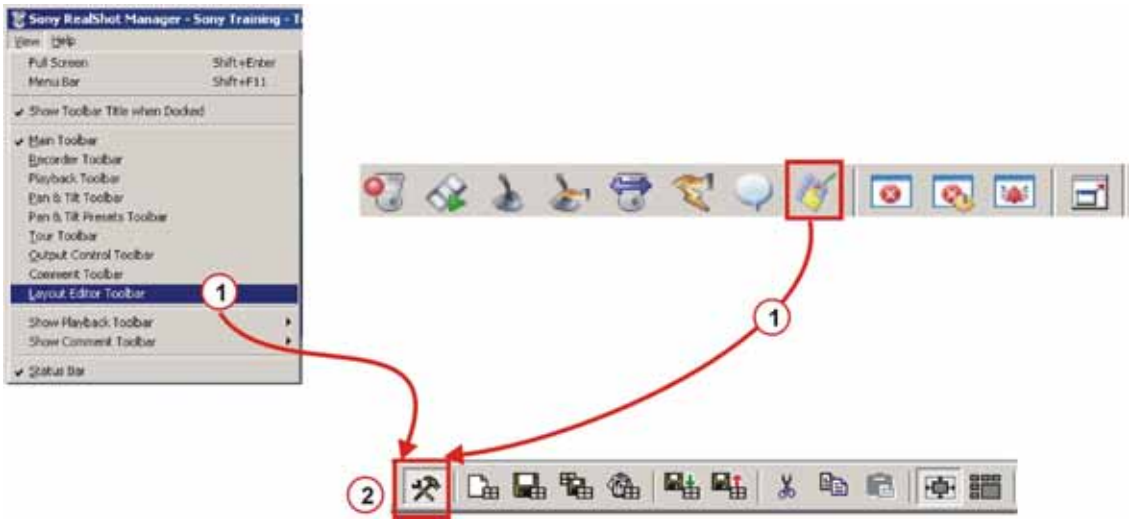


Figure 214 Opening the Layout Editor Toolbar

1) Display the Layout Editor toolbar by selecting , or selecting Layout Editor Toolbar from the View menu.
2) Select to enable the layout editor tools.

Creating a New Layout

The create layout tool can be used to create a basic monitor window layout. It is used to add multiple camera monitors to the layout and specify information about the monitor windows.

Select on the 'Layout Editor Toolbar' to open the 'Create Layout' dialog; see Figure 215.

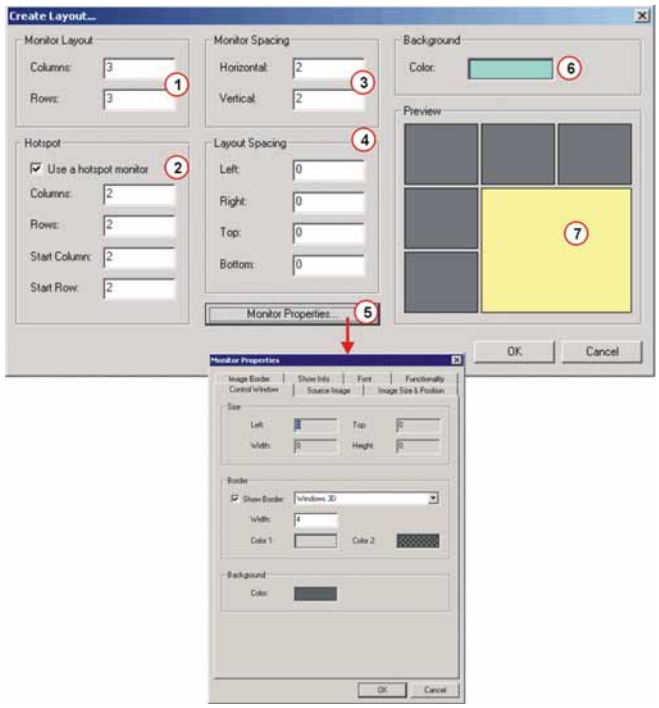


Figure 215 The Create Layout Dialog

1) Monitor Layout – Select the number of monitors you want displayed on screen by entering a number of columns and rows.
2) Hot Spot – Enable the Use a hotspot monitor check box to assign one monitor as a hotspot monitor. Enter the number of columns and rows you want the hotspot monitor to occupy (the size of the hot spot monitor). Enter the start column and row to specify where the hotspot monitor should be positioned on screen (1,1 is the top left corner). The hot-spot area is shown as yellow in the 'Preview' region (7).
3) Monitor Spacing – Enter the number of pixels of spacing between monitors both horizontally and vertically in the monitor window.
4) Layout Spacing – Creates a margin round the layout with a border width as specified in the individual boxes for the left, right, top and bottom margins. The border width is in pixels.
5) Select Monitor Properties to open a dialog that allows you to specify the specific properties for the monitor windows. See Detailed Monitor Window Settings on page 164. From the 'Monitor Window', you can also modify these properties for individual monitor windows later by double-clicking on them with the left-mouse button. See 'Monitoring' on page 34.
6) Background – Double-click on the 'Colour' box to select a colour for the background of the monitoring window, select OK to accept the new colour.
7) Preview – The preview window provides an overview of the monitor window layout that will be created, including the Hot Spot monitor if one has been set.

Naming the Layout

When you have created your new layout, you can give it a name as follows:

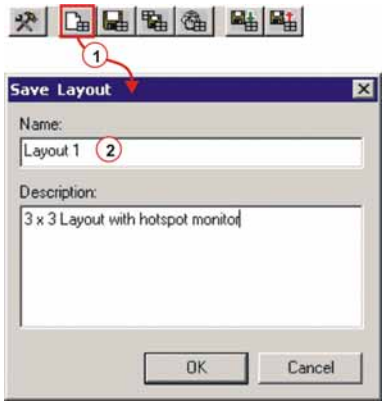


Figure 216 Naming a Layout

1) Select ‘Save Layout’ .
2) In the ‘Save Layout’ dialog, enter a Name for the layout (required) and a Description (optional) that describes the layout or its usage.
3) Click OK.

Detailed Monitor Window Settings

The display settings of each camera monitor window can be defined using the Camera Monitor Properties dialog. The settings made in this dialog affect the appearance of the camera monitor window(s), not the entire layout; see Figure 217.

To open the Camera Monitor Properties dialog to change the default settings for all camera monitors, select Monitor Properties... from the ‘Create Layout Tool’. You can then either select a monitor display window and use the ‘Create Layout’ icon to select ‘Monitor Properties’ or double-click with the left-mouse button directly on the monitor display window. To change the settings for a single camera monitor window, double click on it in the ‘Monitor Window’ when the layout editor is active. The resulting dialog has the following tabs:

- Control Window
- Source Image
- Image Size & Position
- Image Border
- Show Info
- Font

Monitor Window Control

This window allows you to modify the size and appearance of the monitor window itself. These settings are separate from those that affect the size and appearance of the monitored camera image. See Figure 217.

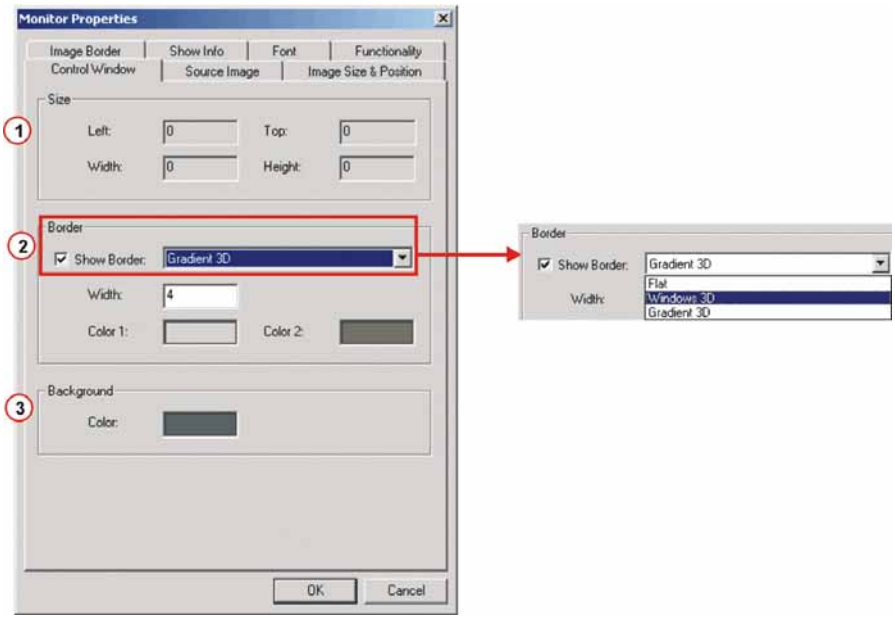


Figure 217 Control Window Tab

1) Size – Displays the location and size of the window, these fields are read-only.
2) Border - Click on the 'Show Border' check-box to enable or disable borders around the camera monitors. Select a style from the combo-box:

Type		Description
'Flat'	-	Specify a border colour using the 'Color 1' box.
'Windows 3D'	-	Specify a border colour in the 'Color 1' box.
'Gradient 3D'	-	Specify the start and end colours for shading the border using the 'Color 1' and 'Color 2' boxes. See Selecting a Colour on page 22. Note: The 'Color 2' box is only available when Gradient 3D is selected as the border style.

Width – The value in the 'Width:' box specifies the width of the border in pixels.

3) Background – Set the background colour for the camera monitor by clicking on the 'Colour' box. See Selecting a Colour on page 22

Source Image Tab

The source image tab is used to crop and pan an image within a monitor window. See Figure 218. This can be used to trim black borders from camera images or to separate split camera images into individual monitoring windows.

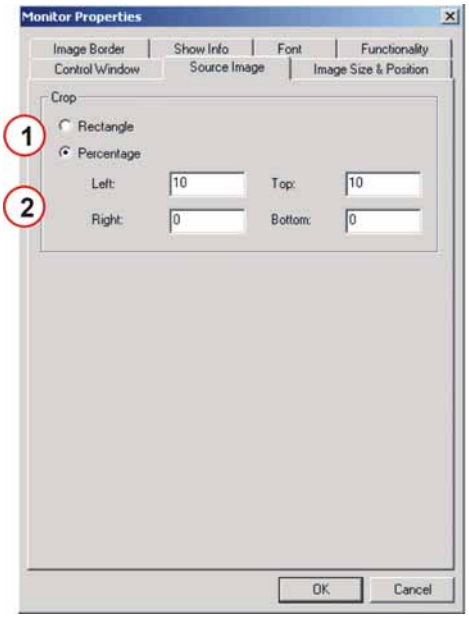


Figure 218 Source Image Tab

1) Select the cropping mode:

- 'Rectangle' Mode - The cropping is performed with absolute units (pixels).
- 'Percent' Mode - The cropping is performed with values relative to the image size (as a percentage).

2) Enter values for a cropped view of the image, the cropping parameters change depending on which cropping mode is selected:

- Rectangle – Left, Top, Width and Height. Crop from the Left and/or from the Top by the selected number of pixels. Crop the width and/or height by the specified number of pixels. A rectangle crop is useful for selecting a specific area of an image for examination.
- Percent – Left, Right, Top and Bottom. Crop from the selected side(s), the portion of the image specified by the selected percentage.

Camera Image Size and Position Tab

The positioning and scaling of the image within the monitor window can be set using this tab. The scaling settings can also be set by right clicking on the monitor window and selecting the desired options from the context menu. See Figure 219.

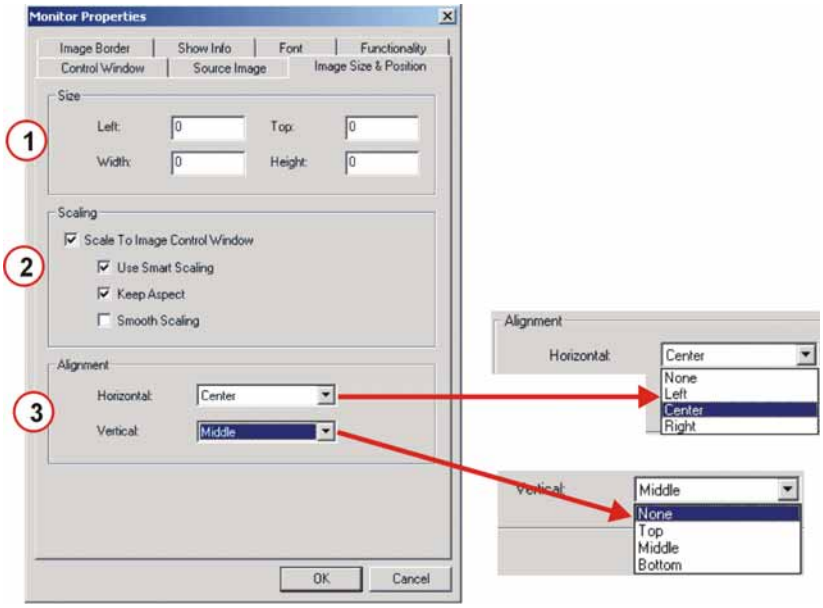


Figure 219 Image Size & Position Tab

1) ‘Size’ – sets the offset of the image from the left and top edges of the monitor window. Also sets the maximum height and width of the image. These settings are only effective when the ‘Scale to Image Control Window’ check box is enabled.

2) ‘Scaling’ – these options affect how the image is resized when the monitor window is resized:

- ‘Scale To Image Control Window’ - enables or disables scaling of the image when the monitor window is resized. If smart scaling is not enabled then the image will be scaled to exactly fill the monitor window.
- ‘Use Smart Scaling’ - the image will be rescaled in steps to fit inside the monitor window. The aspect ratio of the image is maintained in this mode. The size settings (1) must all be set to 0 for this option to work correctly.
- ‘Keep Aspect’ – the aspect ratio, i.e. the ratio between the horizontal and vertical dimensions of the image is maintained as the image is resized.
- ‘Smooth Scaling‘ – the image is smoothed (anti-aliased) as it is resized. This helps to improve the picture quality when the image is resized.

3) ‘Alignment’ - the alignment of the image within the monitor window can be set horizontally (none, left, centre, right) and vertically (none, top, middle, bottom) by making a selection from the drop-down menus.

Image Border Settings

When the image from the camera does not fill the monitor window completely, it is separated from the background by a border with these characteristics. See Figure 220.

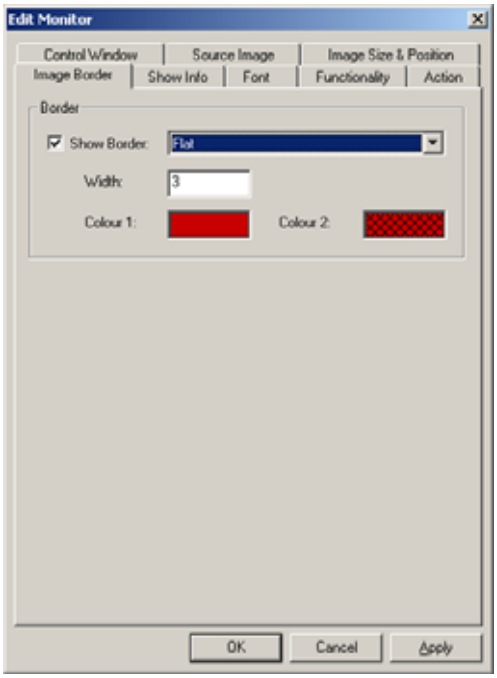


Figure 220 Image Border Tab

1) Show Border – click on the Show Border check box to enable or disable borders around the image within a camera monitor.

2) Border Style - specify the style of the border around each monitor window, select a style from the combo-box:

‘Flat’	-	Specify a colour using the ‘Color 1’ box.
‘Windows 3D’	-	Specify a colour in the ‘Color 1’ box.
‘Gradient 3D’	-	Specify the start and end colours for the shading using the ‘Color 1’ and ‘Color 2’ boxes.

3) Width - sets the width of the border in pixels.

4) Click on the Colour 1 and/or 2 boxes to open the colour picker dialog and select a colour for the border. Note that the Colour 2 box is only available if required for the Border type selected.

5) The Colour 2 box is only available when Gradient 3D is selected as the border type.

Display Information

The ‘Show Info’ tab of the ‘Monitor Properties’ dialog allows you to select which text information will be displayed within the camera monitor window. Click on the check-boxes to enable or disable the display of text information. See Figure 221.

These can also be enabled/disabled by right-clicking on a camera monitor in the main monitor window, selecting the ‘View’ option and then selecting the text information to be displayed.

The position of each item of textual information within the camera monitor window is set using the combo-box to the right of it.

You can use the ‘View’ sub-menu from the right-click pop-up menu of a monitor window to show or hide each of the items of text. If shown they will appear in the positions specified in the settings as shown in Figure 221.

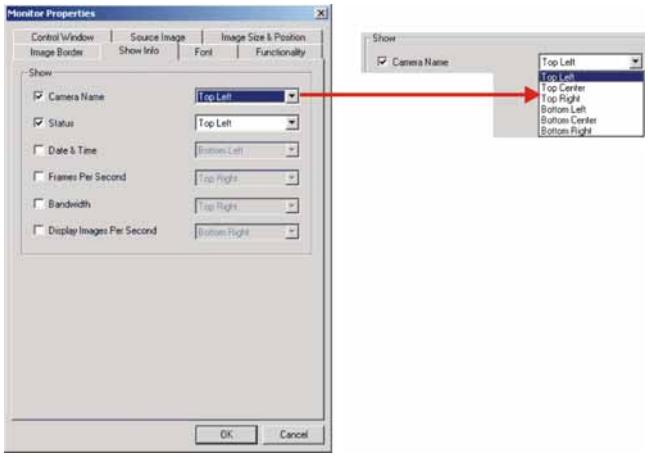


Figure 221 Show Info Tab

‘Camera Name’ - the name of the camera that was assigned in the Setup Manager dialog.

‘Status’ - error messages and recording/playback events etc. will be displayed, e.g. ‘No Connection’.

‘Date & Time’ - the current date and time is displayed.

‘Frames per Second’ (fps) - shows the speed at which images are being captured by the camera.

‘Bandwidth’ - shows the amount of bandwidth (kbps) being used by the camera to transfer images across the network connection.

‘Display Images per Second’ (dips) - shows the speed at which the computer display of the camera is being updated.

Fonts for Text

The font type and sizes can be set for the text information that appears in each monitor window. See Figure 222. Two font settings are possible, one for Normal Fonts and one for Large Fonts. The large font is used for the status information that appears in the centre of the monitor window and the normal font is used for all other information.

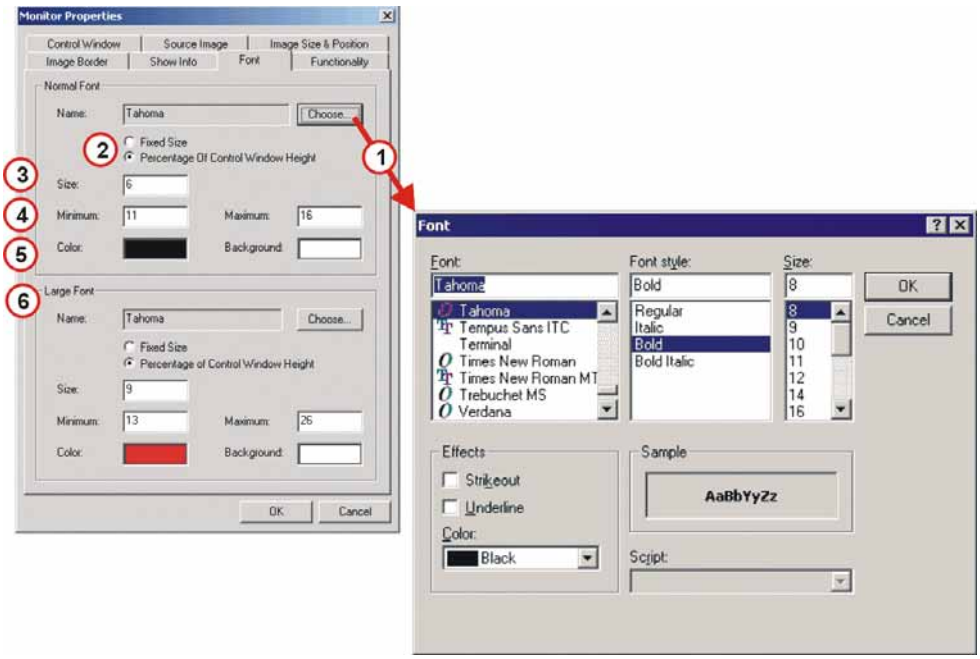


Figure 222 The Font Tab

1) Click on Choose... to select the font name and style from the Font selection dialog.
2) Select the font resizing mode:
   - 'Fixed Size' - the font size does not change when the monitor window is resized.
   - 'Percentage of Control Window Height:' - the font size will change when the monitor window is resized.

Enter the following:

3) 'Size' - sets the font size to use when Fixed Size is selected (2).
4) 'Minimum Size'- sets the minimum font size to use when the window is made smaller.

   'Maximum Size' - sets the maximum font size to use when the window is made larger.
5) Click on the colour selectors to set the background and foreground colours for the font.
6) Repeat for the large font.

Functionality

Use the Functionality tab to control the range of functions the user can execute on camera monitor windows when they are displayed in the normal monitoring window. See Figure 223.

Selecting the check boxes removes the functionality associated with the check-box from the right-click pop-up menu of the camera monitor windows. For example, selecting 'Image Scaling Disabled' removes scaling options from the menu.

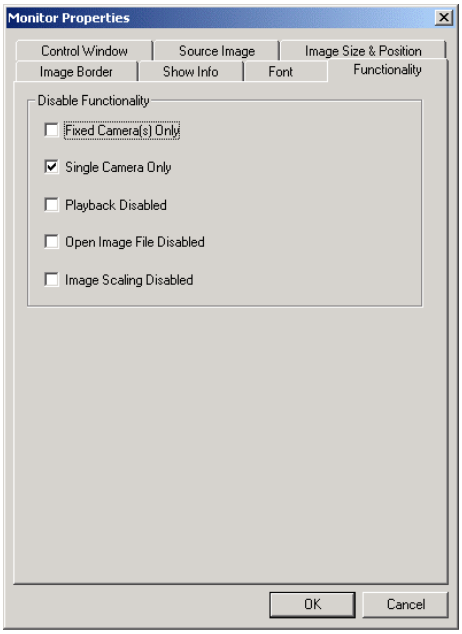


Figure 223 Functionality Tab

- 'Fixed Camera(s) Only' – inhibits selecting a different camera for this camera monitor window.
- 'Single Camera Only' – prevents the user from selecting multiple cameras for display in this camera monitor window.
- 'Playback Disabled' – inhibits this camera monitor window being used to playback material, i.e. it will only display live camera images or snapshots.
- 'Open Image File Disabled' – Prevents the user from opening a snapshot image in this camera monitor window.
- 'Image Scaling Disabled' – Prevents the user from changing the scaling mode of this camera monitor window.

Selecting Layouts for Monitoring

Several Layouts can be created and stored using the Layout Editor you can switch between them as follows:

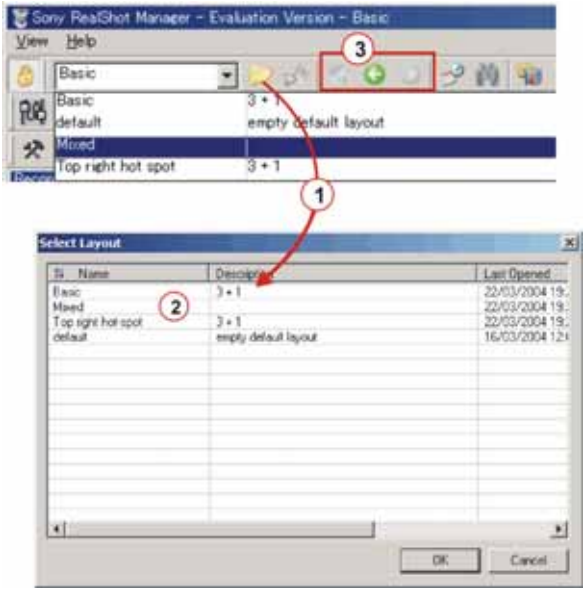


Figure 224 Selecting a Layout

1) Click on the 'Open Layout' icon on the main toolbar. This will display the 'Select Layout' dialog. Or select a layout directly from the drop-down list.
2) Select a layout from the list and click on OK. The selected layout is opened and ready for use.
3) To switch between layouts more quickly use the Layout Navigation icons:

- Loads the default layout[1].
- Loads the previous layout from the list of opened layouts.
- Loads the next layout from the list of opened layouts.

These icons will be disabled at the extent of the range, e.g. from the first layout in the list, 'previous layout' will not be available.

[1] One layout in the list can be assigned as the default layout. See 'General Settings' on page 91 for details. This layout can be quickly recalled by clicking on the 'Default Layout' icon .

The Previous ( ) and Next ( ) Layout icons step through a list of the layouts that have been opened since the RealShot Manager application was last started.

Sharing Layouts

Saving Layouts

Once a layout has been created, you can modify its name and description. See Figure 225.

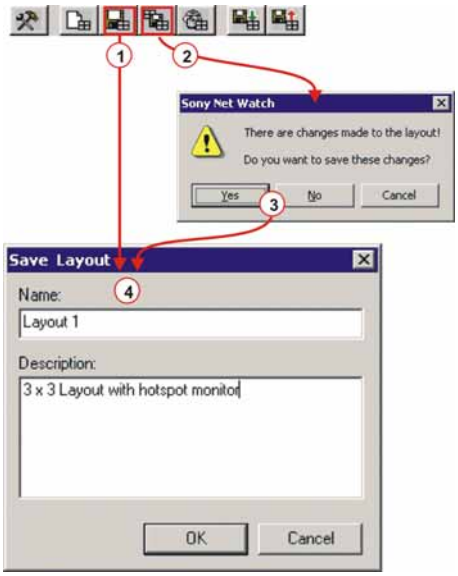


Figure 225 Saving a Layout

1) Ensure that you are in 'Edit Layout' mode, select a layout and then select the 'Save Layout' button from the Layout Editor toolbar.

OR

2) Click on the 'Save As New Layout' button to save a copy of the current layout with a new name.

3) If the current layout has changed then you will be asked if you want to save the changes in the new layout, select Yes to save the original first, No to discard any changes or Cancel to abort the operation.

THEN IN BOTH CASES

4) Enter a modified name and description for the original or copied layout and select OK to save.

Deleting Layouts

If a layout is no longer required, it can be deleted as follows:

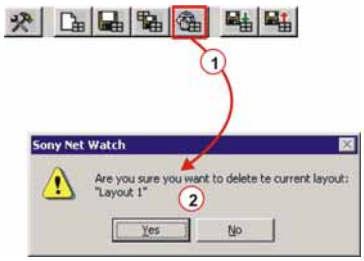


Figure 226 Deleting a Layout

1) Select a layout and click on the 'Delete Layout' button on the layout editor toolbar.

2) Click on Yes to confirm the delete operation or No to cancel it.

Exporting a Layout

Layouts can only be exported one at a time, it is not possible to import or export multiple layouts. You must first select 'Edit Mode' from the 'Layout Editor' toolbar. To Export a Layout perform the following:

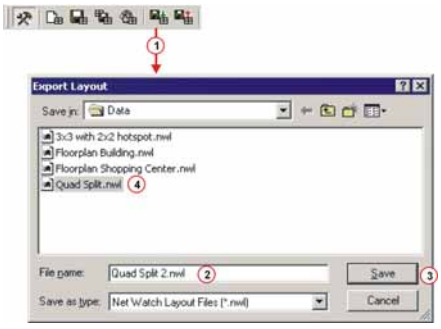


Figure 227 Exporting a Layout

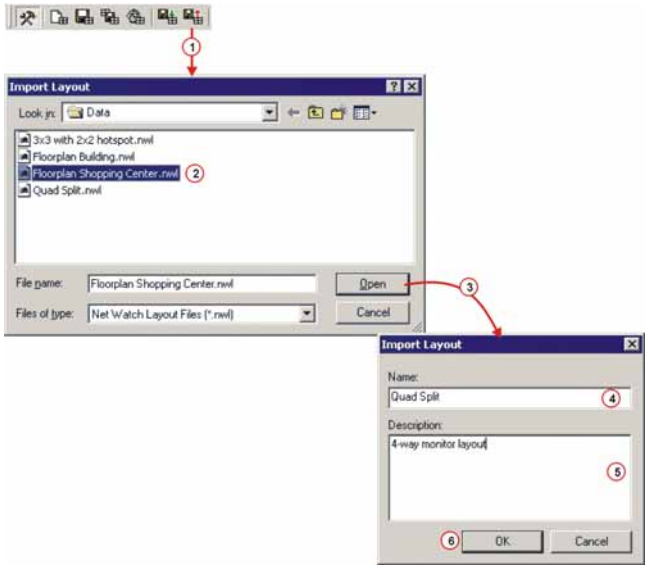
- To Export a Layout perform the following:

1) Select a layout and click on the 'Export Layout' button on the layout editor toolbar.
2) Enter a filename for the layout file and select a repository.
3) Click on Save and
4) The file is created in the selected directory.

If you enter the file name of an existing file, you will be asked to confirm that you wish to replace the file before it can be saved. Answer Yes to overwrite the existing file and No to enter a different filename.

Importing a Layout

You may wish to set up a RealShot manager monitor layout that is the same as one viewed from a different client. To Import a Layout perform the following:



- To Import a Layout perform the following:

1) Click on the 'Import Layout' button on the layout editor toolbar. Select a file to import.
2) Select Open.
3) Modify the name of the file to create the name for the layout. This is only compulsory if a layout already exists with the same name. A warning message is displayed to warn you of the fact that a unique name must be specified.
4) Enter OK to complete the import and Cancel to leave the dialog without importing the layout.

Figure 228 Importing a Layout

Planning a Monitor Layout

Setting the Background Colour and/or Image

To modify the background in your monitor layout ensure that you are in 'Edit Mode' and perform the following. See Figure 229:

Figure 229 Background Image/Colour

1) Select an existing layout or create a new one, click on the Background Colour icon . This will open the standard windows colour palette dialog. See 'Selecting a Colour' on page 22, select a new colour from here and click on OK.
2) To add or modify a background image, click on the 'Insert Background Image' icon . This will open the background image dialog.
3) Enter the name of an existing image file or click on the browse button ... to search for and select an image on your computer's hard disk.
4) Select the background display mode:

- 'Stretch' – the image is stretched to fill the whole of the monitoring window.
- 'Center' – the image is displayed centred within the monitoring window.
- 'Tile' – the image is repeated (tiled) across the whole of the monitoring window.

5) Select OK to save your changes and Cancel to leave the dialogs without saving.

Note: If a full screen background image (or an image is tiled/stretched) is inserted then the background colour will not be visible.

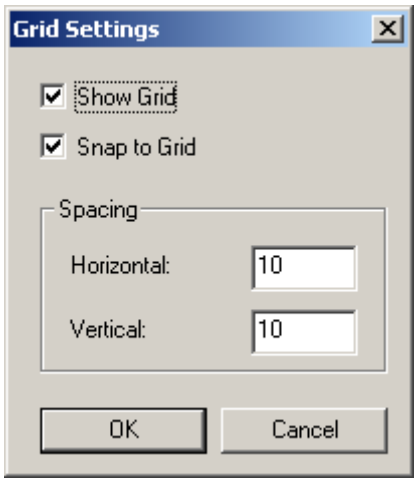
View Options

There are three tools provided to assist with the modification of layouts when using the Layout Editor these are:

Grid Settings	**Opens the grid settings dialog that is used to set up grid to which all object placement and movement operations are snapped. See** Grid Settings on page 174.
Show/Hide Monitors	Used to hide the monitors to allow images behind the monitors to be seen and modified. Toggles on/off with each click.
Show/Hide Images	Used to hide images to reduce the amount of clutter on screen when editing the layout. Toggles on/off with each click.

Grid Settings

The objects placed in the 'Monitor Window' can be aligned to a grid. This grid can be visible or hidden. See Figure 230:



'Show Grid' - when checked displays grid lines in the monitor window to assist in modifying a layout.

'Snap to Grid' - when checked objects can only be positioned and re-sized to the nearest grid point.

'Horizontal/Vertical Spacing' - enter numbers here to set the spacing of the grid lines.

Figure 230 Layout Grid

Manipulating Monitor Window Objects

All objects that are created when using the Layout Editor can be cut, copied and pasted as new objects in the same layout using the icons on the Edit toolbar if you are in 'Edit Mode'. The Copy/Paste operation will duplicate **all** object properties **except** position; when paste is executed the new object is always pasted at the top left of the monitor window.

- - Cut (Ctrl+X)
- - Copy (Ctrl+C)
- - Paste (Ctrl+V)

To Copy and Paste an Object

1) Select the object with the mouse; the selected item will be highlighted with yellow border.
2) Click on the Copy icon or select Ctrl+C on the keyboard.
3) Click on the Paste icon or press Ctrl+V on the keyboard. The copied object may be repeatedly pasted.

To Cut and Paste an Object

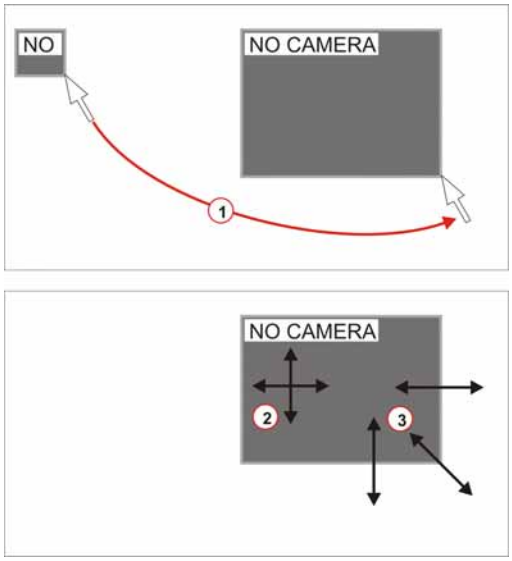
1) Select the object with the mouse; the selected item will be highlighted with yellow border.
2) Click on the Cut icon , or select Ctrl +X, the object is removed from the layout and stored in the paste buffer.
3) Click on the Paste icon or press Ctrl+V on the keyboard. The cut object may be repeatedly pasted.

To Delete an Object

1) Select the object with the mouse; the selected item will be highlighted with yellow border.
2) Press Delete (DEL) on the keyboard to remove the object permanently.

Adding Camera Monitors

The ‘Monitor Window’ can contain camera monitor windows to display the images from many cameras. The Layout Editor allows you to design the layout of these camera images. See Figure 231:



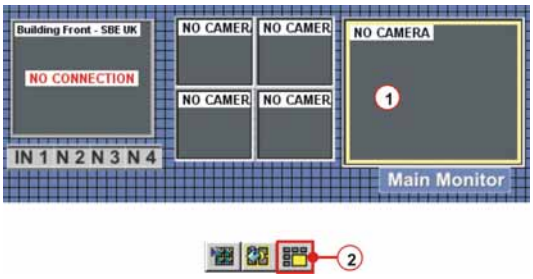
1) Click and drag the left mouse button anywhere in the monitor window outside the camera image and a new camera monitor window is created.
2) Click and drag inside a camera monitor window to move it to a different position.
3) Click and drag at the edges of a camera monitor window to change its size.

Figure 231 Adding a Monitor

Note: You can also use the create layout tool to quickly create basic layouts with multiple monitors, these layouts can then be modified to achieve the desired result.

Assigning a Hotspot Monitor

In a RealShot Manager configuration with many cameras, the camera monitor windows may have to be very small to fit them all on the screen. One monitor can be used as a ‘hotspot’ monitor. See Figure 232. The hotspot monitor will display the same picture as the currently selected camera monitor window. The hotspot monitor will usually be larger than the other monitors and so can provide a better view of the selected camera monitor.
You must be in ‘Edit Mode’ to assign a Hot Spot monitor but it will not become active until you exit ‘Edit Mode’.

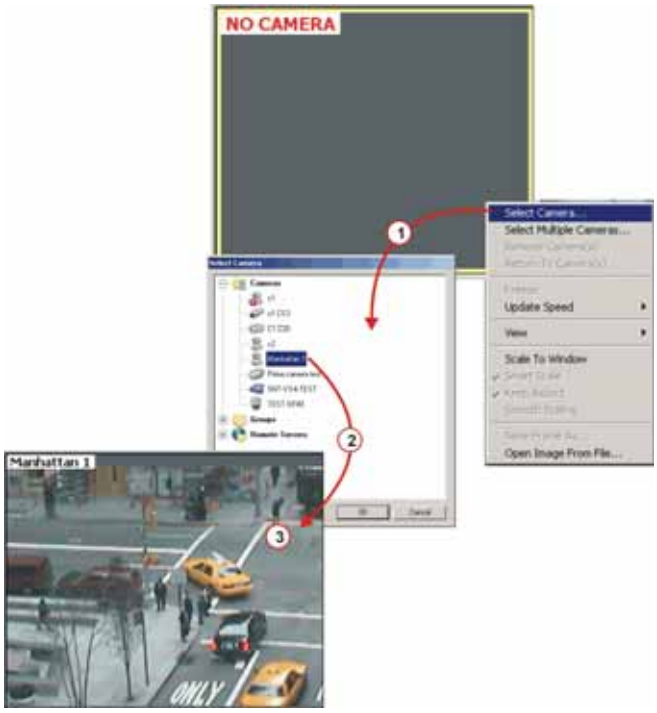


1) Select a camera monitor window with the mouse.
2) Click on the ‘Set As Hotspot’ icon to assign the selected monitor window as the hotspot monitor.

Figure 232 The Hot-Spot Monitor

Assigning a Single Camera to a Camera Monitor

To view the images from a single camera in a camera monitor window perform the following:



1) Right click on a camera monitor window. See Figure 233 and select 'Select Camera...' from the pop-up menu.
2) In the camera selection dialog select the camera you want to view on the monitor and then click on OK. Select Cancel to exit without assigning a camera.
3) If you selected OK in 2) then the selected camera is assigned to the camera monitor window.

Figure 233 Select Camera to Monitor

Assigning Multiple Cameras to a Camera Monitor

It is possible to assign multiple cameras to a single monitor window. See Figure 234. When multiple cameras are assigned the monitor window will display pictures from each camera for a specified duration. For example you might assign four cameras to a monitor window and the display would show the images listed below. This pattern would then repeat.

- Camera A for 4 seconds
- Camera B for 6 seconds
- Camera C for 4 seconds
- Camera D for 8 seconds

Select a Layout and enter 'Edit Mode' before performing the following:

1) Right click on a camera monitor window and select 'Select Multiple Cameras...'.
2) Select one or more cameras in the left panel. You can hold down the Ctrl or the Shift key and left-mouse click to select multiple cameras.
3) Select to add the selected camera(s) to the in the right panel. Select one or more cameras from the right hand list and click on the button to remove those cameras from the list of cameras to be monitored.
4) The camera images are displayed in the order of the list. To change the order, select a camera in the right hand panel and use and to move the camera up or down one position in the list.

5) The duration for which the image from each camera is displayed is editable; select a camera and enter a custom value in milliseconds in the 'Display Duration' box. The default value is 4 seconds (4000 ms).

6) Select OK to save your changes and Cancel to exit without saving them.

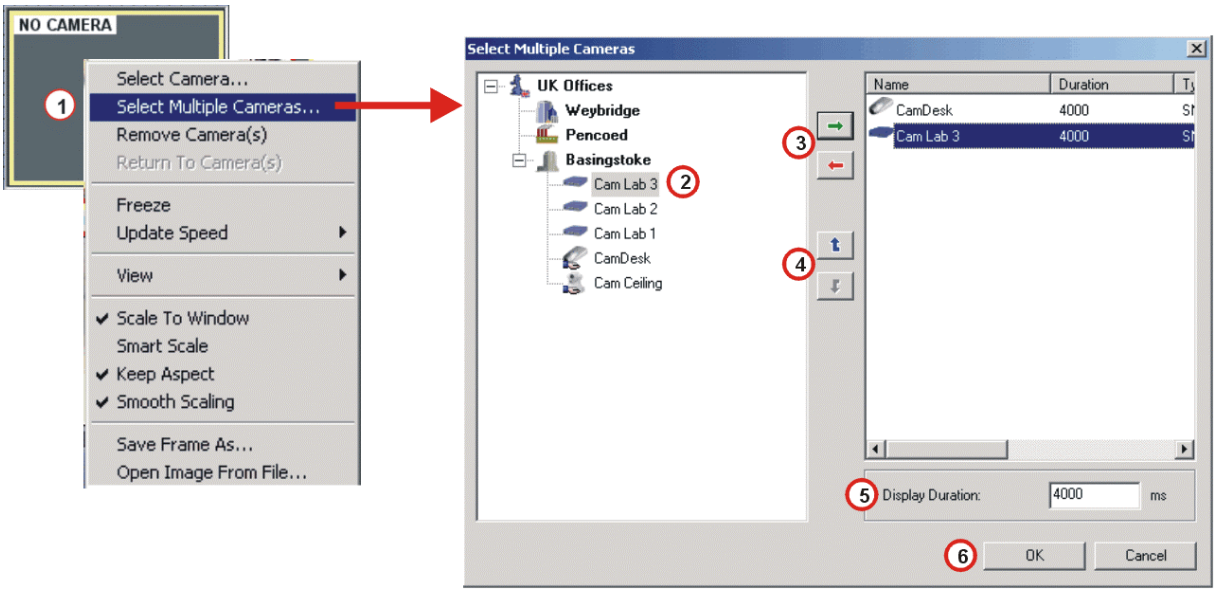


Figure 234 Assigning Multiple Cameras to a Monitor

Viewing a Single Frame in a Camera Monitor

Single frame images may be viewed in a camera monitor window

1) Select a Layout.

2) Select a Camera Monitor window by clicking on it with the left mouse button.

3) Right mouse click to open the pop-up menu and select 'Open Image From File...'.

4) Click on the 'browse' button ... and select or enter the name of an image file using the file browser. You can open JPEG, Bitmaps (BMP) or wavelet (EYE) files.

5) Select Open.

Adding a Foreground Image to the Layout

A graphic image may be added for aesthetic purposes or to be made into an active window object, see Figure 235. To add a layout or image: Select a Layout, ensure that you are in 'Edit Mode' on the Layout Editor toolbar and then perform the following:

1) Click on the 'Insert Image' icon on the 'Layout Editor' toolbar.

2) Enter the name of the file or browse to the image file required and select Open.

3) Select the type of positioning you want for the image:

- 'Anchor' – the position of the image is fixed to one or more of the screen edges. Use the combo box to select which edge the image is to be 'anchored' to. If the anchor point is underneath a monitor window, you may have to move the monitor window to be able to see the graphic.
- 'Stretch' – the image position changes relative to the RealShot Manager application window.

- 'Keep Aspect' - maintains the original 'aspect ratio' of the image when 'Stretch' is selected, this is only available if 'Stretch' is selected.

4) It is possible to specify one of the colours in the image to be transparent. Click on the 'Colour' check box to select transparency mode, then click on the coloured box to open the colour selection dialog. Select a colour.

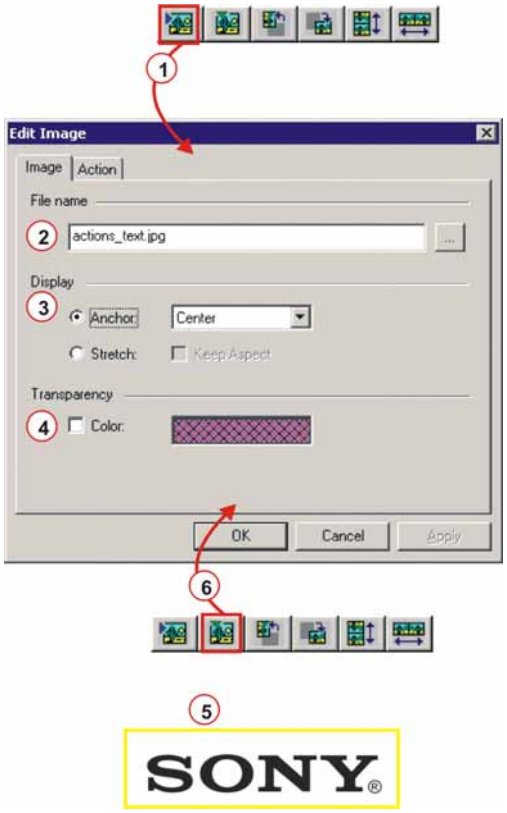


Figure 235 Adding a Foreground Image to the Monitor Window

Editing a Foreground Image

To edit a foreground image within the monitor layout, select a Layout, ensure that you are in 'Edit Mode' on the Layout Editor toolbar and then perform the following:

1) Select the image with the mouse; a yellow border marks the selected image.
2) Select from the toolbar or double-click on the image.
3) Modify the image parameters as required and select OK to save your changes.

Note: Although you can use browse to select image files from anywhere on your computer, the image will only be displayed if it is located in the <install path>\data folder of the Sony RealShot Manager application.

The default location for this folder is: c:\Program Files\Sony\Sony RealShot Manager\Data.

Monitor Window Object Scaling

Select a Layout, ensure that you are in 'Edit Mode' on the Layout Editor toolbar. Click on the 'Toggle Scaling Mode' button on the layout editor toolbar to enable or disable scaling of objects in the monitor layout.

Each type of object has it's own scaling options:

- Camera Monitor Windows – The image within a camera monitor window can be scaled with the monitor window in several different ways. See 'Scaling Camera Monitor Windows' on page179.
- Background Images – The size of these is either fixed or varies with the monitor window. See 'Setting the Background Colour and/or Image' on page 173.
- Foreground Images – Scaling can be set from several modes. See 'Scaling Foreground Images' on page 179.

Scaling Camera Monitor Windows

Either right mouse click on the monitor window and select the scaling modes from the context menu or double click on the monitor window in the layout editor in 'Edit Mode'. See Figure 236.

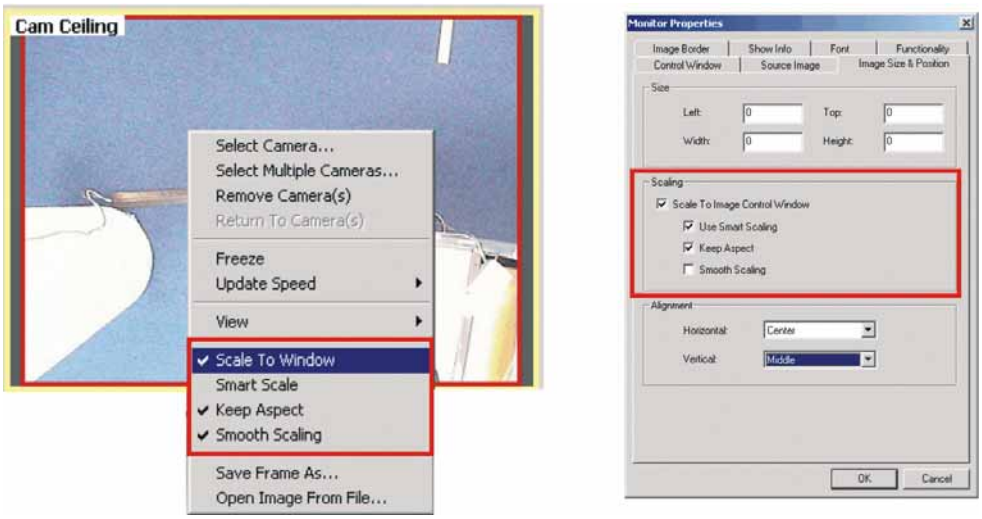


Figure 236 Scaling Options for Camera Monitor Windows

The camera images within the monitor window will be scaled if 'Scale To Window' is enabled. Each of the scaling options is described in 'Camera Image Size and Position Tab' on page 166.

Scaling Foreground Images

Scaling can be set independently for each foreground image object. However, scaling overall is controlled by the 'Toggle Scaling Mode button' which overrides the settings for all images that are set to 'Stretch' mode.

Double click on the image you wish to modify and change the parameters in the 'Edit Image' dialog. See Figure 237.

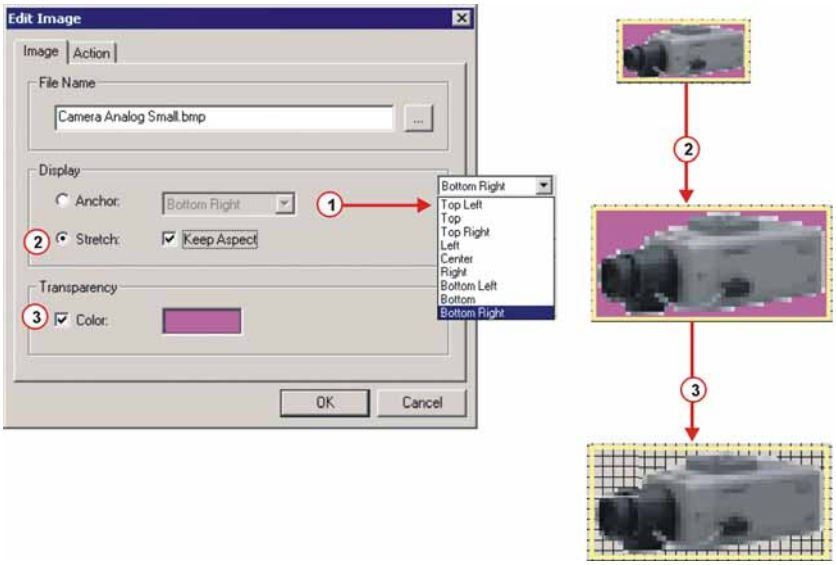


Figure 237 Editing a Foreground Image

1) Select the Anchor check-box and use the drop-down list to define the anchor point of the image when moving it. This will disable the ‘Stretch’ check-box.
2) Select the ‘Stretch’ check-box to enable resizing of the image. When this is enabled you can resize the image in the layout editor by dragging handles that appear when the cursor is placed over one of the edges of the image. This will disable the ‘Anchor’ check-box’. Enabling the ‘Keep Aspect’ check-box will limit the resizing to one dimension, the other dimension will automatically follow to keep the aspect ration of the image constant.
3) Enable the ‘Colour’ check-box and use the colour selector to specify a transparency colour. This colour will be ‘keyed out’ in the image and become transparent.

Rotating Images

Foreground images can be rotated using the image editing facilities of the Layout Editor toolbar. See Figure 238

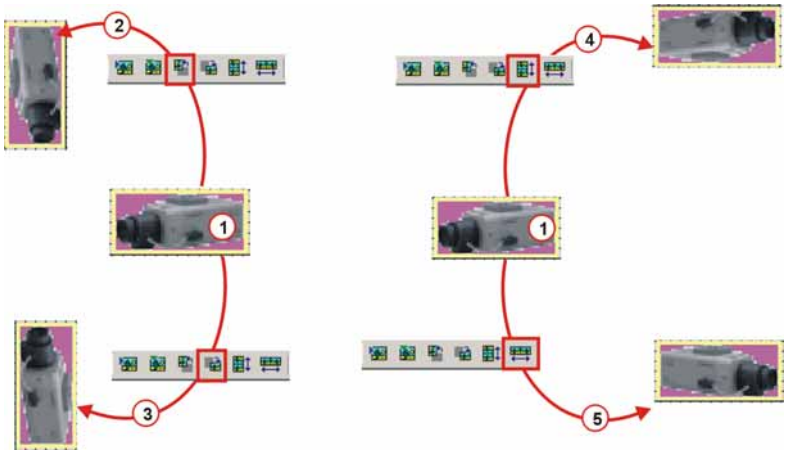


Figure 238 Rotating Images

1) Select an image to rotate; the selected image is marked with a yellow border.
2) Click on the ‘Rotate Left’ button to rotate the image 90 degrees anticlockwise.
3) Click on the ‘Rotate Right’ button to rotate the image 90 degrees clockwise.

4) Click on the 'Flip Image' icon to mirror the image vertically.
5) Click on the 'Mirror Image' icon to mirror the image horizontally.

Adjusting the Z-Order of Images

When multiple foreground images are placed on screen overlapping each other, you can change the order of the images as shown in Figure 239:

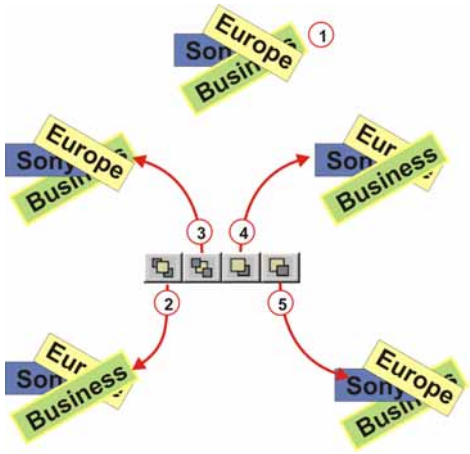


Figure 239 Image Layering

1) Select an image that you want to move up or down in the display. The selected image is outlined with a yellow border.
2) Click on the Bring To Front icon to move the selected image on top of all other images.
3) Click on the Send To Back icon to move the selected image behind all other images on the display.
4) Click on the Bring Forward icon to move the selected image forward one level in the display order.
5) Click on the Send Backward icon to move the selected image backward one level in the display order.

Note: Camera Monitor windows always appear in front of graphic images.

Adding Object Actions

Objects such as foreground images on the monitor window can be configured to respond to mouse clicks, i.e. to have an associated action. There are two types of action that can be assigned:

1) To select a camera in a monitor.
2) To switch to a different monitor window layout.

Actions are invisible on screen; there is no indication that any actions exist until the mouse is moved over an action area. When the mouse cursor is placed over an object or area of the screen with an action assigned to it, the cursor shape will change:

- Indicates an action that will change the camera that is displayed in a monitor.

- Indicates an action that will switch from the current layout to a different layout.

The following monitor window ‘objects’ may have ‘actions’ assigned to them. The set up of an action is the same for all these types of object. See Figure 240:

- Foreground Images
- Camera Monitor Windows
- Stand alone action ‘hotspots’ may be created anywhere in the Monitor Window.

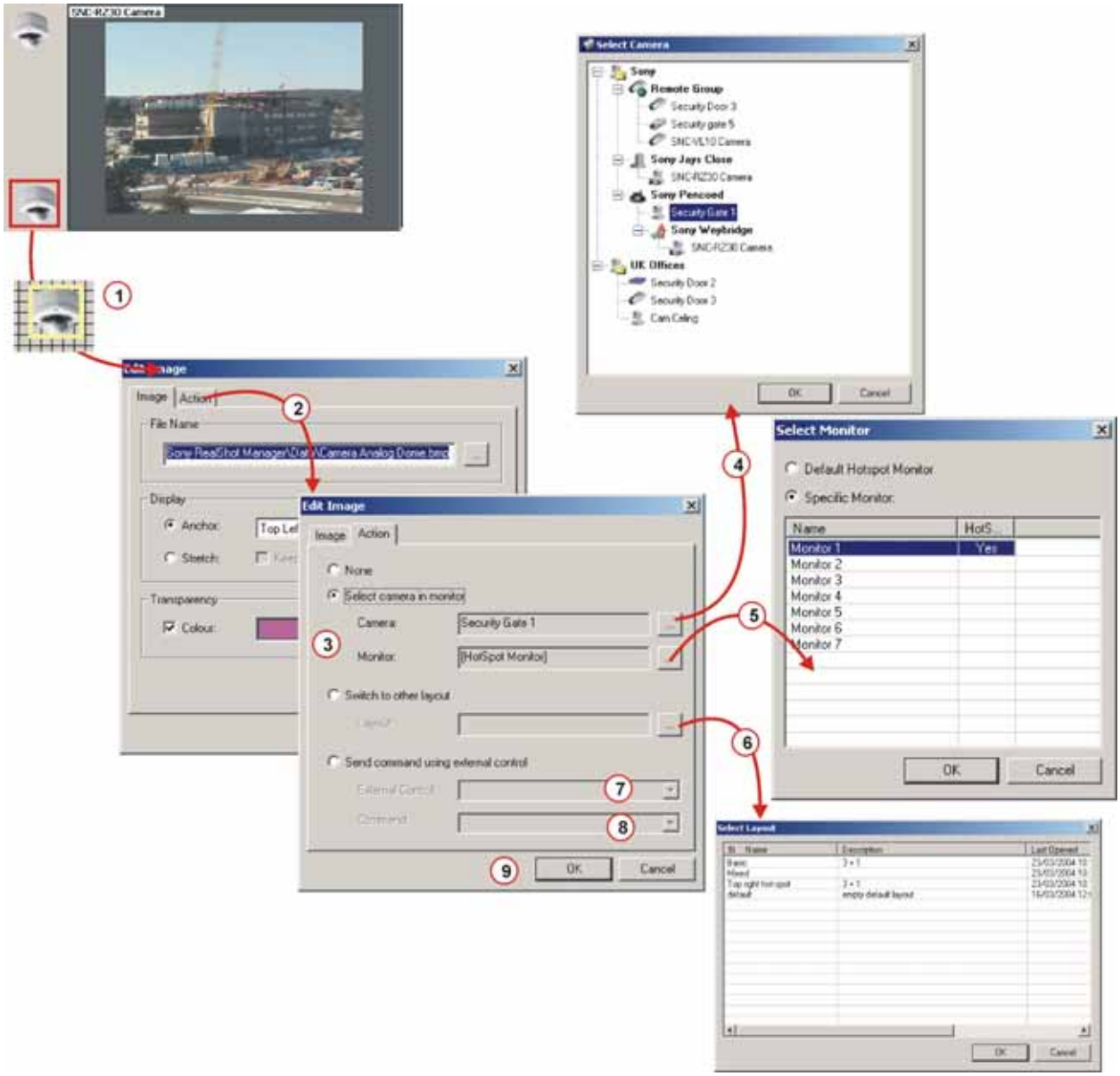


Figure 240 Setting Actions

To assign an action to a monitor layout object in the Layout Editor, ensure that you are in Edit Mode and then perform the following:

1) Double-click the object, an image in the example shown in Figure 240.
2) Select the ‘Action’ tab of the dialog.

3) Select the type of action required. For certain types of object only a subset of actions are allowed. Any actions not applicable to this object will be disabled:

- None - No action is executed.
- Select Camera in Monitor window. - A specified camera will be displayed in a specified monitor
- Switch to other Layout - The monitoring window layout will be changed to another specified layout.
- Send command using external control - The selected command is sent to the specified external control device.

Using 'Select Camera in Monitor':

This action allows you to change the camera(s) assigned to a camera monitor window when the object is selected in the monitor window:

1) Select ..., this will open the Select Camera dialog.
2) Select a camera from the list and click on OK.
3) Select ..., this will open the Select Monitor dialog.
4) Choose a monitor that will display the camera selected above:

- Default Hotspot Monitor - The main hotspot monitor is used.
- Specific Monitor - Select a monitor from the list and click on OK.

Using the 'Switch to Other Layout':

This action allows you to modify the monitor layout when the object is selected in the monitor window:

1) Click on the layout browse button ..., this will open the 'Select Layout' dialog.
2) Choose a monitoring window layout from the list and click on OK.

To check that the action has been correctly assigned, exit the Layout Editor and in the normal Monitor window, hover over the object to which you have attached the action. The cursor should change according to the action assigned. Left mouse click on the object and check that the action is completed as follows:

- Switches the camera that is displayed in the monitor to the camera specified by the action.

- Switches the monitor window to a different layout as specified by the action.

Using 'Send command using external control'

Select a device and a command string from the two drop-down boxes to send that command to the device when the monitor layout object is selected.

Monitor Window Update Speed

The speed at which the camera monitor windows are updated with new images can be configured. See Figure 241. This can allow you to monitor many cameras without loading the RealShot Manager client PC heavily. The full frame rate is being recorded and can be viewed later.

The speed at which the camera monitor window is updated is referred to as 'Display Images Per Second' (dips). The setting for dips bears no relation to Frames Per Second (fps), which is set for the capture of images from the camera.

For example RealShot Manager may be set up to record images from a camera at 25 fps and display live images from the camera at 2 dips.

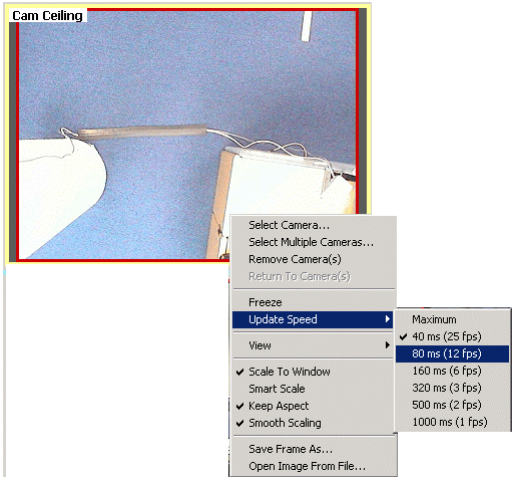


Figure 241 Changing the Monitor Update Speed

To change the update speed for the selected camera monitor window:

1) Right mouse click on a camera monitor window. See Figure 241.
2) Select Update Speed > from the pop-up menu and navigate to the sub-menu.
3) Select the update speed from 40ms(25 fps) to 1000ms (1 fps) or Maximum. If maximum is selected the camera monitor window will be updated as fast as possible given the limitations of the processor speed of the PC.

Positioning Display Information

A number of information text boxes can be displayed within the camera monitor window. These text boxes are useful when initially setting up the system or when diagnosing system problems.

The positioning of each piece of information can be set from the right-click menu of the camera monitor window. See 'Selecting Display Items' on page 35. The monitor window display information can also be configured in the Edit Monitor dialog, see 'Figure 221.

Troubleshooting

Logging

The most important troubleshooting aids that RealShot Manager offers you are the log files, this section describes in detail how to configure the reporting of errors, warnings and other messages.

Logging Control

To modify the events logged by the logger, open the logging control window by using the ‘Logging Control’ icon on the Main toolbar . See ‘The Main Toolbar’ on page 26.

Selecting the Message Destination

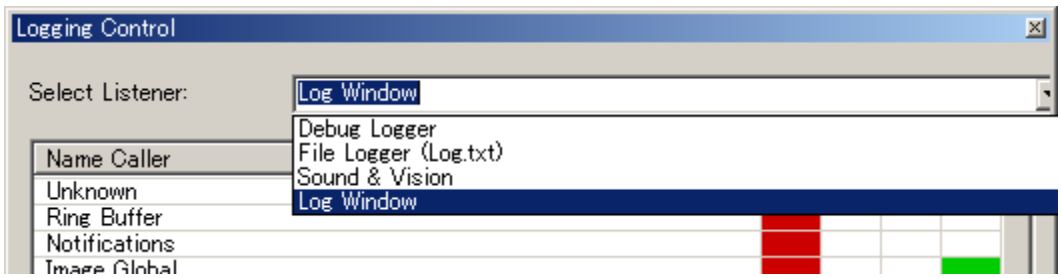


Figure 242 Selecting Message Destinations

Use the ‘Select Listener’ drop-down list to choose the destination for the log messages to be selected using the table.

- Select the Log Window for high priority messages that will require immediate attention.
- Select the File Logger for any message that may occur whilst the system is unattended. These messages are sent to the file Log.txt.
- Select the Debug Logger if there have been any non-operational problems with the system that require investigation.
- Select Sound & Vision for high priority messages than may require an immediate alert such as an audible alarm.

Selecting the Message Sources and Types

The ‘Name Caller’ column is a list of cameras and applications that generate error messages.

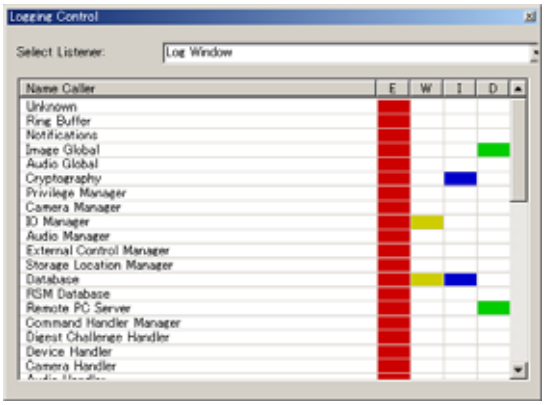


Figure 243 Filtering Messages

Log entries can be filtered based on the severity of the message. Check the colour-coded boxes to register the severity of messages you require to be logged from each Name Caller.

- Error (Red) – High priority messages resulting from a problem that requires immediate attention.
- Warning (Yellow) – Lower priority problems that require attention but not immediately.
- Information (Blue) – No action required but may be useful to know.
- Debug (Green) – For use only by trained personnel in the investigation of a problem. The volume of messages logged for debug purposes is too high to sustain during normal operation.

The Logging Window and Log Files

To view recent log messages, click on the 'Logging Wind**ow'** icon on the Main toolbar.

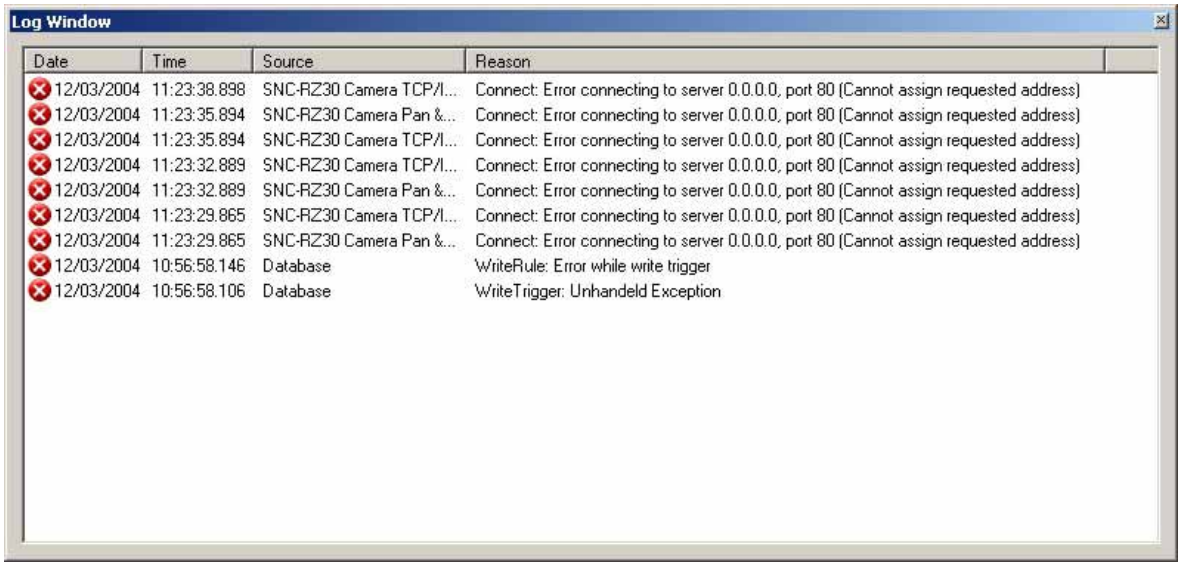

Log Window
Date
Time
Source
Reason
12/03/2004 11:23:38.898 SNC-RZ30 Camera TCP/I... Connect: Error connecting to server 0.0.0.0, port 80 (Cannot assign requested address)
12/03/2004 11:23:35.894 SNC-RZ30 Camera Pan &... Connect: Error connecting to server 0.0.0.0, port 80 (Cannot assign requested address)
12/03/2004 11:23:35.894 SNC-RZ30 Camera TCP/I... Connect: Error connecting to server 0.0.0.0, port 80 (Cannot assign requested address)
12/03/2004 11:23:32.889 SNC-RZ30 Camera TCP/I... Connect: Error connecting to server 0.0.0.0, port 80 (Cannot assign requested address)
12/03/2004 11:23:32.889 SNC-RZ30 Camera Pan &... Connect: Error connecting to server 0.0.0.0, port 80 (Cannot assign requested address)
12/03/2004 11:23:29.865 SNC-RZ30 Camera TCP/I... Connect: Error connecting to server 0.0.0.0, port 80 (Cannot assign requested address)
12/03/2004 11:23:29.865 SNC-RZ30 Camera Pan &... Connect: Error connecting to server 0.0.0.0, port 80 (Cannot assign requested address)
12/03/2004 10:56:58.146 Database WriteRule: Error while write trigger
12/03/2004 10:56:58.106 Database WriteTrigger: Unhandeld Exception

Figure 244 The Log Window

Each message in the list is date and time stamped and identified by the source camera or application. The 'Reason' column gives a description of the problem; see Figure 244.

To locate log files, look in the Directories section of the General Settings. Select the General Settings button from the Main toolbar (see 'The Main Toolbar' on page 26). The path specified in the 'Directories' section 'Logging' field is where the log files are to be found.

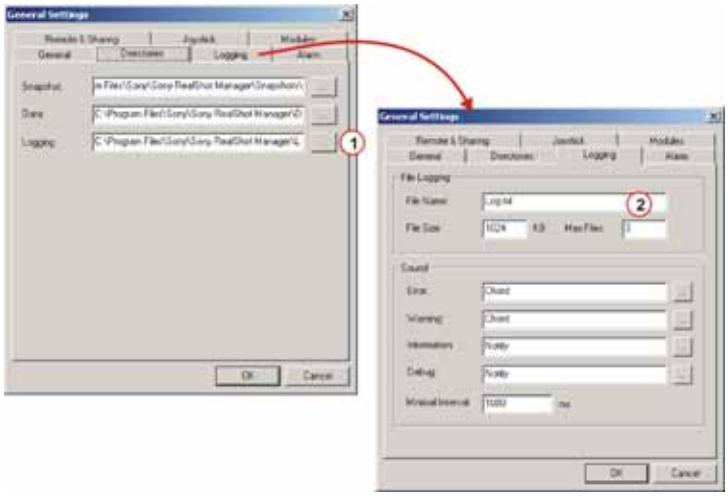


Figure 245 Locating Logs

On the Logging tab of the ‘General Settings’ you can also specify the file name, maximum file size and the number of files to be kept.

For details of all the fields in this tab. See ‘Logging and Alarm Notification’ on page 94.

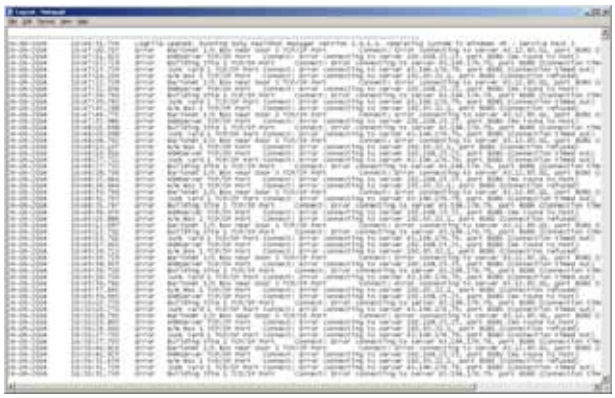


Figure 246 The Log File

The log file can be opened with a standard windows application such as Notepad. Right-click on the log file in explorer and select the application from the ‘Open With…’ list.

The format of the messages is very similar to that of those in the Logging Window. A date/time stamp, severity level and description of the problem.

User Log Window

The User Log window is tracks the log-in activity of the users. Each item in the log is a user either logging in or logging out. The date and time of the log-in activity is recorded. This window is dockable, if you drag it to an edge of the main RSM application window it will become attached. The docking function acts in the same way as for the Alarm Monitoring window, see Monitoring Alarms on page 80.

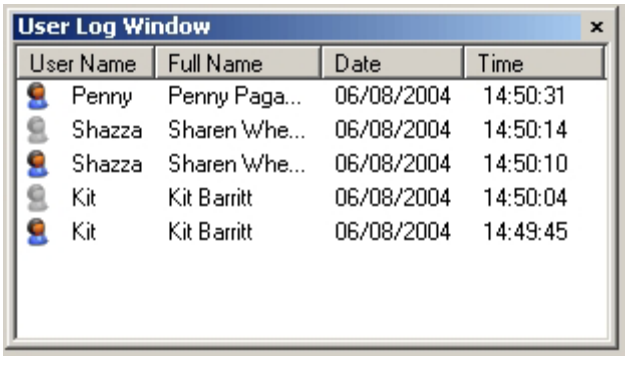


Figure 247 User Log Window

The most recent user is at the top of the window.

The icon is coloured when the user logs in, and is grey when the user logs out.

Error Messages

Camera Monitor Window Displays NO CONNECTION

RealShot Manager displays this message when it is unable to communicate with a camera across the network. This problem can be caused by:

- The camera being switched off.
- The network connection between the camera and the RealShot Manager PC being ‘broken’, e.g. a network router has been switched off.
- The camera configuration in RealShot Manager and/or the camera being incorrect – refer to ‘Camera’ on page 121 and the relevant camera user guide.
- The network routing being via a proxy server and the details have not been entered in the camera properties.

Verifying a Network Connection (Using Ping)

Open the command prompt in windows and use the ping command:

1) Use the Windows Start menu to select Run..., or press the Windows Key + R.
2) Type ‘cmd’. (Note: Windows 98 does not recognise ‘cmd’ so type ’command’ instead).
3) Select OK.
4) Type ping <ip address of camera> to test if the camera is connected to the network and visible from this computer.

If the camera is connected then you will see a message of the form ‘Reply from 192.168.0.110: bytes=32 time<10ms TTL=128’, as shown in Figure 248.

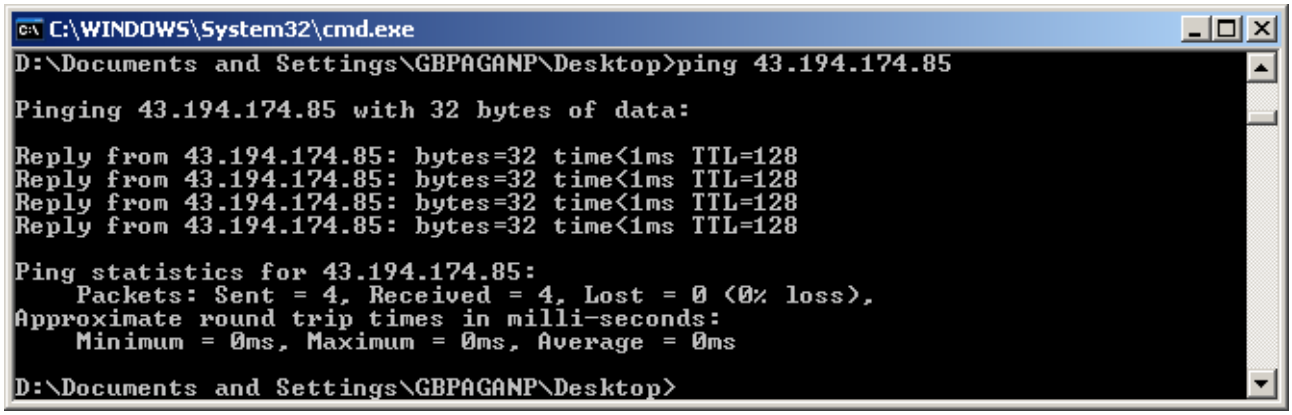

C:\WINDOWS\System32\cmd.exe
D:\Documents and Settings\GBPAGANP\Desktop>ping 43.194.174.85
Pinging 43.194.174.85 with 32 bytes of data:
Reply from 43.194.174.85: bytes=32 time<1ms TTL=128
Reply from 43.194.174.85: bytes=32 time<1ms TTL=128
Reply from 43.194.174.85: bytes=32 time<1ms TTL=128
Reply from 43.194.174.85: bytes=32 time<1ms TTL=128
Ping statistics for 43.194.174.85:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
D:\Documents and Settings\GBPAGANP\Desktop>

Figure 248 Testing a Network Connection with Ping

If the camera is not connected, ‘Request timed out’ is displayed as shown below.

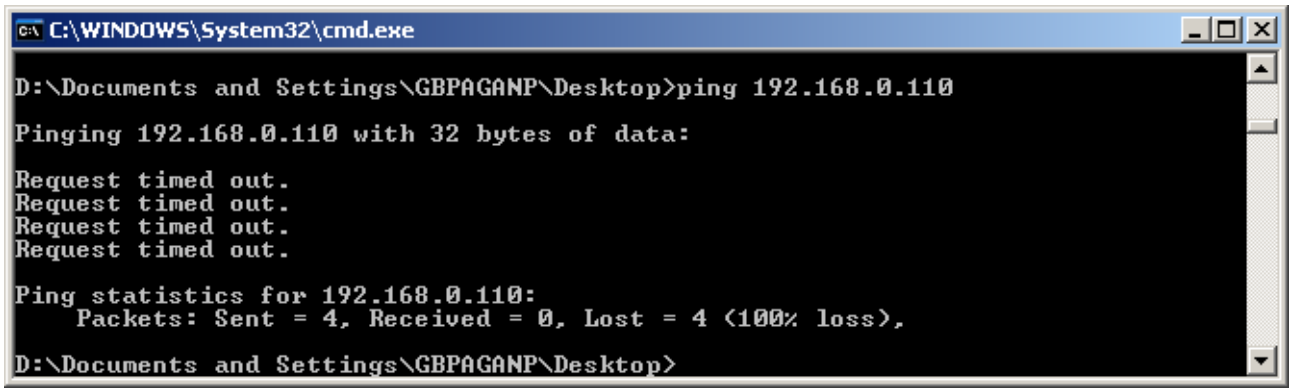

C:\WINDOWS\System32\cmd.exe
D:\Documents and Settings\GBPAGANP\Desktop>ping 192.168.0.110
Pinging 192.168.0.110 with 32 bytes of data:
Request timed out.
Request timed out.
Request timed out.
Request timed out.
Ping statistics for 192.168.0.110:
Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
D:\Documents and Settings\GBPAGANP\Desktop>

Figure 249 Ping Responses

The network connection between the RealShot Manager PC and the camera may pass through other devices such as network routers and patch panels. You will need to verify that all other devices along the network are also working correctly.

Camera Monitor Window Displays NO PERMISSION

When RealShot manager is started no user is logged in. In this initial state or if logged in as a user with insufficient privileges, you may see a message in one or more monitor windows – ‘NO PERMISSION’, see Figure 250. To view the images from the assigned cameras you must log in as a user with the correct permissions. For advice for administrators on creating accounts see ‘User Accounts’ on page 105.

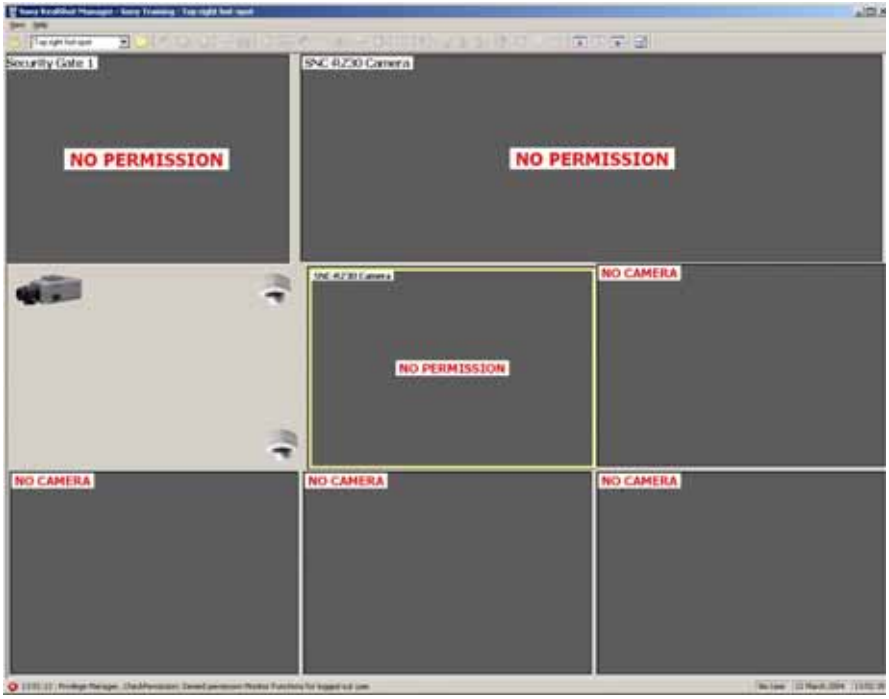


Figure 250 Insufficent Permissions

Cannot Display or Record the Maximum Frame Rate

This message can be the result of network related issues, settings at the camera, or values applied to setup parameters within RealShot Manager:

The camera resolution or picture quality is set too high for the network connection or PC that is running RealShot Manager – see ‘

- Setting Camera Properties' on page 121.
- The local camera settings are limiting the maximum frame rate – see the relevant camera user guide.
- The camera is set to non-streaming mode for image transfer – see 'Stream and Non-Stream Modes' on page 132.
- There is more than one user transferring images from the camera at the same time. As more users request images the maximum frame rate at which images are transferred will fall.
- In the case of the SNT-V304 the maximum frame rate is limited by the number of cameras connected – see '

Network Station Limitations' on page 132.

- The display update speed is not set to maximum – see 'Monitor Window Update Speed' on page 184.

Note that the rate at which images are displayed and the rate at which they are recorded are two different things. It is possible for images to be recorded at 25 fps but only displayed at 2 fps for example.

The Camera Image on Screen is Very Poor Quality

If the image from a camera is poor then the causes could be as follows:

- The camera is not in focus
- The lens is dirty
- A low resolution image capture has been selected for the camera
- Low picture quality has been selected for the camera

Camera focus cannot be adjusted using RealShot Manager; you must use a web browser to connect to the camera. The camera settings and controls that are accessible through a web browser are password protected; you will need to know the user name and password to be able to adjust focus settings. See the user manual for the camera for details.

The RealShot Manager camera settings will also impact on the picture quality received from the camera. If a low resolution is set for the camera but the camera is viewed on a larger monitor window then the image will appear very 'blocky'.

For example, if the camera resolution is set to 160 x 120 pixels and the monitor window is set to 800 x 600; this will result in a very poor image quality because the original image has insufficient detail to supply the full 800 x 600 resolution. See the user manual for the camera for details of how to change the camera resolution.

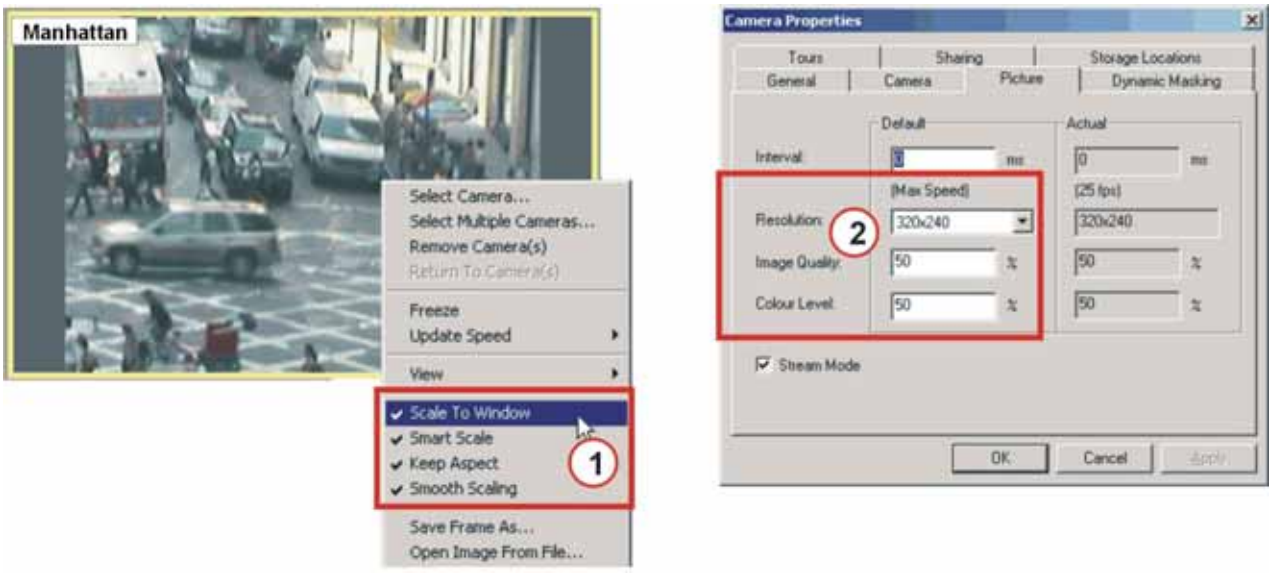


Figure 251 Setting Image Parameters

1) Right mouse clicking on a monitor window enables you to make image scaling adjustments – see 'Camera Image Size and Position Tab' on page 166.

Camera resolution and image quality settings are made in the Camera Properties dialog – see '

2) Setting Camera Properties‘ on page 121.

3) To improve the image quality you can try the following:

- If ‘Scale To Window’ is turned on; enable the ‘Smart Scale’ or ‘Smooth Scaling’ functions.
- Increase the ‘Resolution’ or ‘Image Quality’ in the Camera Properties dialog – take care if doing this as it may impact on the performance of the system, in particular the maximum frame rate for recording or display may be reduced. The reduction in performance caused by increasing resolution and image quality on one camera may also affect other cameras that you are recording or monitoring.
- Turn ‘Scale To Window’ off – this will reduce the size of the image on screen; you will see the image at the resolution (size) it is actually captured at.

FAQ

The application menu bar isn’t visible, how do I display it?

Press SHIFT + F11 on the keyboard to toggle the menu bar on and off.

Glossary

ADSL

Asymmetric Digital Subscriber Line. This is an always-on digital connection service that is implemented over voice, and sometimes ISDN, telephone lines. Its primary use is in connecting computer networks or Internet connectivity. It can also be used for interactive TV or Video On Demand services. It operates by encoding the digital signals into an unused area of the signal.

An ADSL Line transmits data asymmetrically meaning the bandwidth usage is much higher in one direction than the other. Typical ADSL applications transmit 8 Mbps downstream and 1544Kbps upstream, depending on the length of the local loop. This is particularly beneficial for Internet access, remote access and video on demand because downstream usage far exceeds upstream usage.

Aliasing

Defects in the image or picture caused by too low a sampling rate during digitisation or poor filtering. Usually seen as 'jaggies' or stair steps in diagonal lines.

API

This acronym stands for 'Application Programming Interface' and it usually describes the application calls available using a software or protocol library.

Aspect Ratio

This is the relationship between the width and height of an object. Usually expressed as 'width:height' for example television pictures are usually referred to as having a 4:3 or 16:9 aspect ratio.

bmp

This is the file extension for Windows bitmap files of single frame images.

Debug

This is the process of removing errors from software or a particular mode of running the software that reports the internal state.

DIPS

The 'Display Images Per Second' specifies how frequently the camera monitor window should be updated with new pictures received from a camera.

DSN

The 'Data Source Name' is the published name of a database that allows other applications to connect to it.

Eye

Wavelet format video files have the extension '.eye'. The term Wavelet refers to a mathematical function frequently used in compression (especially image compression). Wavelets can achieve high compression ratios; wavelet image formats can compress images to 1/4 the size of a comparable JPEG file (See JPEG).

FPS

Frames Per Second. This specifies how frequently images should be acquired from the camera. In a Phase Alternate Line (PAL) system frames are composed of two interlaced fields of video and the 'playspeed' frame-rate is 25fps.

GUI

This is an acronym for Graphical User Interface, a description of an operational interface for a software application that uses multiple windows with toolbars of icons and menus. This kind of interface is predominantly designed for navigation using a mouse rather than a keyboard.

I/O

Input/Output

IP

This is an abbreviation of 'Internet protocol', the language that computers on the Internet use to communicate with each other. See Also TCP/IP).

JPEG/jpg

JPEG format video files have the extension '.jpg'. JPEG is an acronym of Joint Photographic Expert Group, the organization that developed the JPEG file format. JPEG is a type of graphics file that uses compression to reduce file size (and therefore, transmission times). JPEG files will not give a perfect reproduction of the source file since the compression mechanism causes loss of resolution in some areas of the image - therefore it isn't common in medical applications. However JPEG files are a good choice for web based photographic graphics that need to be small.

MPEG/mpg

MPEG format video files have the extension '.mpg'. MPEG is an acronym of the Motion Pictures Experts Group, the organization that developed the MPEG file format. MPEG is a set of standards for video and audio files that use, often complex, compression to reduce the encoded file size and therefore, transmission time. The particular part of the MPEG standard implemented by the SNC-P1 Sony camera is MPEG-4 with both I-frame (intra-frame or single frame) compression and P-frames (difference information based on motion prediction between frames, these are much smaller than I-frames). This leads to much smaller file sizes than I-frame only compression but means that decoding is a longer and more complex process. For example to be able to display P-frame number 20 (if there is only one I-frame every 25 frames) one must decode all previous frames starting from the last I-frame.

NFS

A Networked File System is a structure of folders and files organised in a particular format that can be made visible across an ethernet network.

NIC

A Network Interface Card is another name for a network adapter. It enables a PC or other computer to communicate over a local or wide area network. The most commonly used network protocol is TCP/IP over Ethernet. See IP and TCP/IP.

ODBC

Open Database Connectivity is a protocol used to make databases based on Structured Query Language (SQL) access available to software applications without a detailed knowledge of the structure of the database. An ODBC data source is a database protected by an extra layer of software that handles all communications with the database according to the ODBC standard.

OS

The Operating System is the core software on a -PC or other computer that allows applications to run and be accessed.

Pan

See PTZ.

Proxy

In networking, a proxy server is a dedicated PC or other computer that communicates with a wider network on behalf of a group of user PCs. The proxy server hides the IP details of the group that use it and acts as a cache for frequently accesses information.

PTZ

Pan, Tilt and Zoom, refers to the capability of the camera head to move in 3 dimensions:

- Horizontally – Pan.
- Vertically – Tilt.
- In and Out – Zoom.

TCP/IP

This is an acronym for Transmission Control Protocol/Internet Protocol, the BASIC telecommunications language of the Internet. <TCP/IP> controls how data is sent from computer to computer. The TCP layer splits the file into smaller parts (or packets), which are then forwarded to their destination using the IP layer See also IP.

Tilt

See PTZ.

USB

Universal Serial Bus, refers to a serial communication used within and between PCs.

WAV

An audio file format with the file extension ‘.wav’, known as ‘wave’ files developed by Microsoft for use in multimedia on Windows and <OS/2> systems. The wave (short for waveform) file format is the most popular uncompressed audio format across all computer platforms.

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